IUE esa NEWSLETTER

TABLE OF CONTENTS

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IUE ESA NEWSLETTER

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OBSERVATORY CONTROLLER'S MESSAGE

Various unforeseen things have happened, both in VILSPA and elsewhere, which are worth commenting on here.

It has been gratifying that NASA, ESA and the SERC were the official recipients of a U.S. Presidential design excellence award to the IUE Project. The award was accepted for ESA by Professor M. Huber, H/SSD, in a ceremony in Washington D.C. on November 10th. I would like to extend special congratulations to the separately - mentioned IUE Pioneers in ESA, Duccio Macchetto and Manfred Grenseman.

At the local level I am sure most of you will be sorry to hear that Andres Ripoll has been appointed to a new position as Head of the European Astronaut Headquarters. He has already moved to Paris. I am sure that I speak for all of you in the whole IUE community when I wish him success in his new and important position. We will all miss his intense interest in the science aspects of the IUE Project and his always erudite and extremely civilized professionalism as Station Director at VILSPA, Good luck Andres!

Astronomical staff changes have also occurred. Roberto Gilmozzi (we will remember him as Robetadot) has left VILSPA to take up duty at the STScI where he will be working on the target acquisition. Chris Lloyd has returned to England where he reintegrated in the SERC and Dave Pike has taken over all his duties.

The activities in the project seem to be picking up again with the simultaneous production of two newsletters (#31 and #32). I hope this flood of information is not going to be too much for all of you, but there has been a lot of progress recently and we want to keep you as up to date as possible since important decisions, which the users should be aware of, are imminent. One of these, the shape of the final archive, is commented up-on in this newsletter (page 33). Please feel free to contact me with thoughts and/or suggestions on this subject, since we foresee the final decision being made in the fall of 1989. In view of the amount of effort involved it is important that all information is collected before that date, as changes suggested afterwards might be impossible to implement.

Willem Wamsteker

PERSONNEL CHANGES AND VILSPA ORGANIZATION

Richard Monier joined VILSPA as a resident astronomer in September 88. A graduate of Paris Observatory, Richard spent two years at Columbia University working on ultra-violet studies of Ap stars and X-ray emission of Seyfert galaxies and a year working as an engineer in the French aerospace industry before coming to VILSPA.

David Pike took up the post of UK resident astronomer in April. With VILSPA a convenient staging post on the way home from La Palma where he had spent the previous two years he is still enjoying the culture shock of Madrid not least the euphoria of a mere ten minute drive to work! While here he hopes to develop a new-found interest in early-type pre-main-sequence stars.

Responsibility for the VSCC computers has also been rationalized as follows:

Jose Ramon Munoz:

- System Management functions (accounts, quotas, system software updates, configuration) for the VAX-730 and for the Terminal Server Systems.
- ULDA
- All HP-1000 functions
- MIDAS

Francisco Marcelo:

- System Management functions (accounts, quotas, system software updates) for the MicroVAX-II system.
- Back-ups of both VAX-730 and MicroVAX-II.
- SPAN/DECNET (Security, Network updates, accounting).
- DEC liaison.

Below is a table showing the organizational responsibilities of VILSPA staff. If you have any query about any of the topics listed the person to contact initially is listed under 'DAILY'. In case of difficulty with this procedure the coordinator of the group should contacted.

VILSPA OBSERVATORY STRUCTURE

Area of responsibility		Coordinator (Deputy)		Daily
Operations	-------	JC JvS	Obs. Area + G.O. Off. ROTA R/T Schedule Logs RTOPS	RM CG JC JvS&RM CDP CDP&JvS
Archive	-------	MB AT	Database ULDA Newsletter	MB AT CDP
Publication + Science Support	-------	CG LS	3-A Reports Preprints Pub. Lists Library Seminars MIDAS Scientific Comm.	RM LS LS AC CG CG TN
Image Processing	-------	AC TN	ISAS Final Arch. IUESIPS Maint. & Calibration	TN AT&CG RM AC&CDP
Office Automation Observatory	-------	MB CDP	Standardization Implementation Monkey Manuals Communications E-Mail P.U. & Del.	MB MB RM JvS WW

JC : Jean Clavel - JvS : Jacques van Santvoort - RM : Richard Monier - CG : Rosario Gonzalez - CDP : Dave Pike - MB : Michael Barylak - AT : Antonio Talavera - LS : Lourdes Sanz - AC : Angelo Cassatella - TN : Tim Naylor - WW : Willem Wamsteker -

A NOTE ON THE ABSOLUTE CALIBRATIONS NOW USED IN IUESIPS

Angelo Cassatella, IUE Observatory, VILSPA

Two major changes have recently been introduced in the absolute calibration within IUESIPS:

a) implementation of the new LWP ITF (ITF2) and of the new LWP low resolution absolute calibration. The new LWP ITF2 was implemented in IUESIPS on Dec. 21, 1987 (both at VILSPA and GSFC) together with the corresponding new LWP low resolution absolute calibration. The new LWP-ITF2 low resolution absolute calibration is documented by Cassatella, Lloyd and Gonzalez-Riestra (this volume). Note that comparisons between LWP low resolution spectra processed with ITF2 and with the older ITF1 in operation before Dec. 21 show that the combination of the new LWP ITF2 with the the new calibration provides fluxes which are systematically lower (by about 4-7%) than those derived with the older calibration based on ITF1. Note also that to obtain precise flux determinations one should also take into account the sensitivity variations of the cameras (SWP: R.C. Bohlin and C.J. Grillmar, Ap. J. Suppl. 66, 209, 1988; LWR: J. Clavel, R. Gilmozzi and A. Prieto: 1988, Astron. Astrophys. 191, 392; LWP: see preliminary study by G. Sonneborn and M. Garhart, NASA IUE Newsl. No. 31 p. 29).

b) implementation of the high resolution calibration in IUE SIPS. Starting on Dec. 21, 1987, high resolution extracted spectra (third file in the GO tape) processed at VILSPA consist of the gross, background, net and ripple-corrected net spectra (as before), plus one additional record containing the flux-calibrated data. The other output products remain unchanged. A description of the new format of the GO tape and of the IUESIPS modifications necessary for the high resolution absolute calibration is given by Martin (this volume). Note that the high resolution calibration has not yet been implemented at GSFC.

Details of the high resolution calibration are given by Cassatella et al. (this volume). For the LWP camera, the high resolution calibration is still based on the $C(\lambda)$ values derived from the old LWP-ITF1. However, since the the high resolution fluxes, are calculated as:
$[\text{net ripple corrected FN} / t(\text{sec})] * C(\lambda) * S(\lambda)^{-1}$,
they should not be affected by the ITF change because the term which depends most strongly on the ITF is $S(\lambda)$.

ABSOLUTE CALIBRATION AT HIGH RESOLUTION

A. Cassatella[1], D. Ponz[2], P.L. Selvelli[3], M. Vogel[4]

1. Introduction

We recall that absolute fluxes can be derived from IUE high resolution spectra through:

$$F(\lambda) = S^{-1}(\lambda)\, C(\lambda)\, [FN/t] \quad \text{ergs cm}^{-2}\ \text{s}^{-1}\ \text{A}^{-1} \qquad (1)$$

where $S^{-1}(\lambda)$ is the low resolution inverse sensitivity given by Holm et al. (1982) for the SWP and LWR cameras, by Cassatella and Harris (1983) for the LWP ITF1 and by Cassatella, Lloyd and Gonzalez Riestra (this volume) for the LWP ITF2; FN/t is the high resolution ripple corrected net spectrum in FNs normalized to the exposure time in seconds; $C(\lambda)$ is the high resolution calibration function obtained as described in Cassatella, Ponz and Selvelli (1981, CPS81).

The calibration function $C(\lambda)$ is essentially independent on the data extraction software used in the spectral regions where the high resolution orders are well separated (e.g. $\lambda \gtrsim 1500$ A in the SWP and $\lambda \gtrsim 2300$ A in the LWR and LWP). This is not true at shorter wavelengths, because the spectral orders become so close to each other, that the actual position and width of the extraction slit has a non negligible influence on the resulting extracted data. Values of $C(\lambda)$ applicable to the data processed with the "old" data extraction software (i.e. processed at GSFC before Nov. 10, 1981 and at VILSPA before Mar. 10, 1982) are given by CPS81. While confirming the latter values, we present here the final version of the high resolution calibration provided in its preliminary version by Cassatella, Ponz and Selvelli (1982, 1983; CPS82 and CPS83). At the same time, we extend the high resolution calibration to the LWP camera, and provide an analytical representation of $C(\lambda)$ for the different cameras.

2. The high resolution calibration

a) calibration of data processed with the "old" software

The values of $C(\lambda)$ from CPS81 are reported in Table 1 for the SWP (Column 2) and in Table 2 (Column 2) for the LWR. No calibration is available for the LWP since it became operational on Oct. 16th, 1983, i.e. after the installation of the "new" software.

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1) IUE Observatory, VILSPA; 2) ESO, Garching; 3) Osservatorio Astronomico, Trieste; 4) Institute of Astronomy, Zurich

b) calibration of data processed with the "new" software

The values of $C(\lambda)$ are given in Table 1 (Column 3) for the SWP and in Table 2 (Column 3) for the LWR and LWP. These data are essentially the same as those reported in CPS83, but are more reliable than the latter being based on a considerably larger sample of data. Note that the calibration function $C(\lambda)$ is the same for the two long wavelength cameras. Two example applications are provided in Figs. 1 and 2.

c) analytical fit to the calibration curves

The data in Tables 1 and 2 can be represented analytically by the function:

$$C(\lambda) = 10^{a1} / (\lambda - a2) - a3\lambda + a4 \qquad (2)$$

where a1, a2, a3 and a4 are constants given in Table 3 for the different cameras and type of image processing used. The analytical fits in eq. 2 represent the data in Table 1 and 2 with an accuracy better than 1%. Note that eq. 2 should be used within the wavelength limits in Tables 1 and 2.

d) calibration of spectra of emission line sources

It is important to stress that high resolution spectra of emission line sources cannot be calibrated shortwards of about 1500 A in the SWP camera and 2300 A in the LWR, if the data were processed with the "old" software. Longward of the above wavelengths the same curves can be used as for the continuum sources. We also find that the better data extraction provided by the "new" software allows one to calibrate the emission line spectra with faint or no detectable continuum using the same $C(\lambda)$ curve used for the continuum sources over all the wavelength range covered by Tables 1 and 2.

REFERENCES

Cassatella, A., Harris, A.,W.: 1982, ESA IUE Newsl. No. 17, p. 12

Cassatella, A., Lloyd, C., Gonzalez Riestra, R.: 1988, this volume

Cassatella, A., Ponz, D.P., Selvelli, P.L.: 1981, ESA IUE Newsl. No. 10, p. 31; NASA IUE Newsl. No. 14, p. 170 (CSP81)

Cassatella, A., Ponz, D.P., Selvelli, P.L.: 1982, ESA IUE Newsl. No. 15, p. 43 (CPS82)

Cassatella, A., Ponz, D.P., Selvelli, P.L.: 1983, Report Three Agency Meeting, London (CPS83)

Holm, A.V., Bohlin, R.C., Cassatella, A., Ponz, D.P., Schiffer III, F.H.: 1982, Atron. Astrophys. 112, 341

Table 1: C(λ) for the SWP camera

Lambda (A)	C(λ) old	C(λ) new
1250	230	216
1275	208	195
1300	193	178
1325	176	167
1350	163	156
1375	152	147
1400	143	141
1425	136	135
1450	131	130
1475	126	125
1500	122	120
1525	118	116
1550	114	113
1575	110	111
1600	108	108
1625	105	106
1650	103	103
1675	101	101
1700	100	100
1725	98	98
1750	96	96.5
1775	94	95.0
1800	92	94.0
1825	90	92.5
1850	88	91.0
1875	86	89.7
1900	84	88.2
1925	82	87.0
1950	81	85.5
1975	80	84.2

Table 2: C(λ) for the LWR and LWP cameras

Lambda (A)	C(λ) old	C(λ) new
1900		244
1925	292	220
1950	259	201
1975	229	184
2000	207	172
2025	191	163
2050	180	154
2075	171	146
2100	165	140
2125	159	135
2150	153	131
2175	149	128
2200	143	126
2225	139	124
2250	136	122
2275	132	121
2300	129	120
2325	126	119
2350	122	118
2375	120	117
2400	118	116
2425	116	115
2450	115	114.5
2475	114	113.5
2500	113	112.5
2525	112	111.5
2550	110	110.5
2575	109	109.5
2600	108	108.7
2625	107	108
2650	106	107
2675	105	106
2700	104.6	105
2725	104.0	104
2750	103.5	103
2775	103.0	102
2800	102.6	101
2825	102.0	100
2850	101.5	99
2875	100.5	98
2900	100.2	97
2925	100.0	96
2950	99.5	95
2975	99.0	94
3000	98.5	93
3025	98.0	92
3050	97.6	91
3075	97.0	90
3100	96.5	89

Table 3: Coefficients of the analytical fit in eq. 2

CAMERA	a1	a2	a3	a4	type of S/W
SWP	9.791	868.3	0.0335	146.1	new
	9.665	914.1	0.0480	171.0	old
LWR & LWP	9.334	1642.0	0.0284	178.7	new
	10.020	1535.0	0.0131	134.1	old

Note: The same constants hold for LWP and LWR spectra processed with the "new" software.

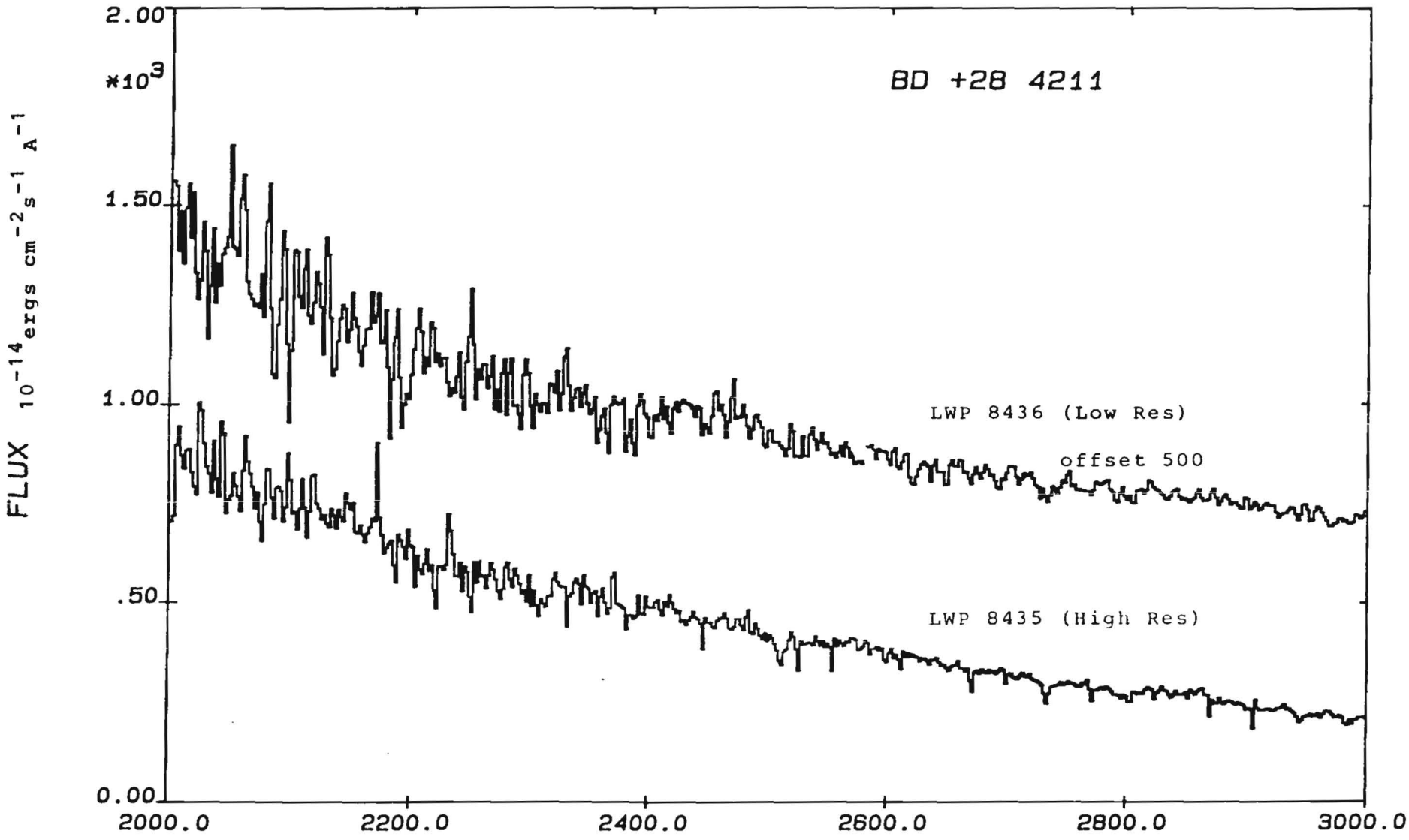
BD +28 4211
LWP 8436 (Low Res)
offset 500
LWP 8435 (High Res)
FLUX 10^-14 ergs cm^-2 s^-1 A^-1
*10^3
2.00
1.50
1.00
.50
0.00
2000.0
2200.0
2400.0
2600.0
2800.0
3000.0
WAVELENGTH (A)

FIG. 1

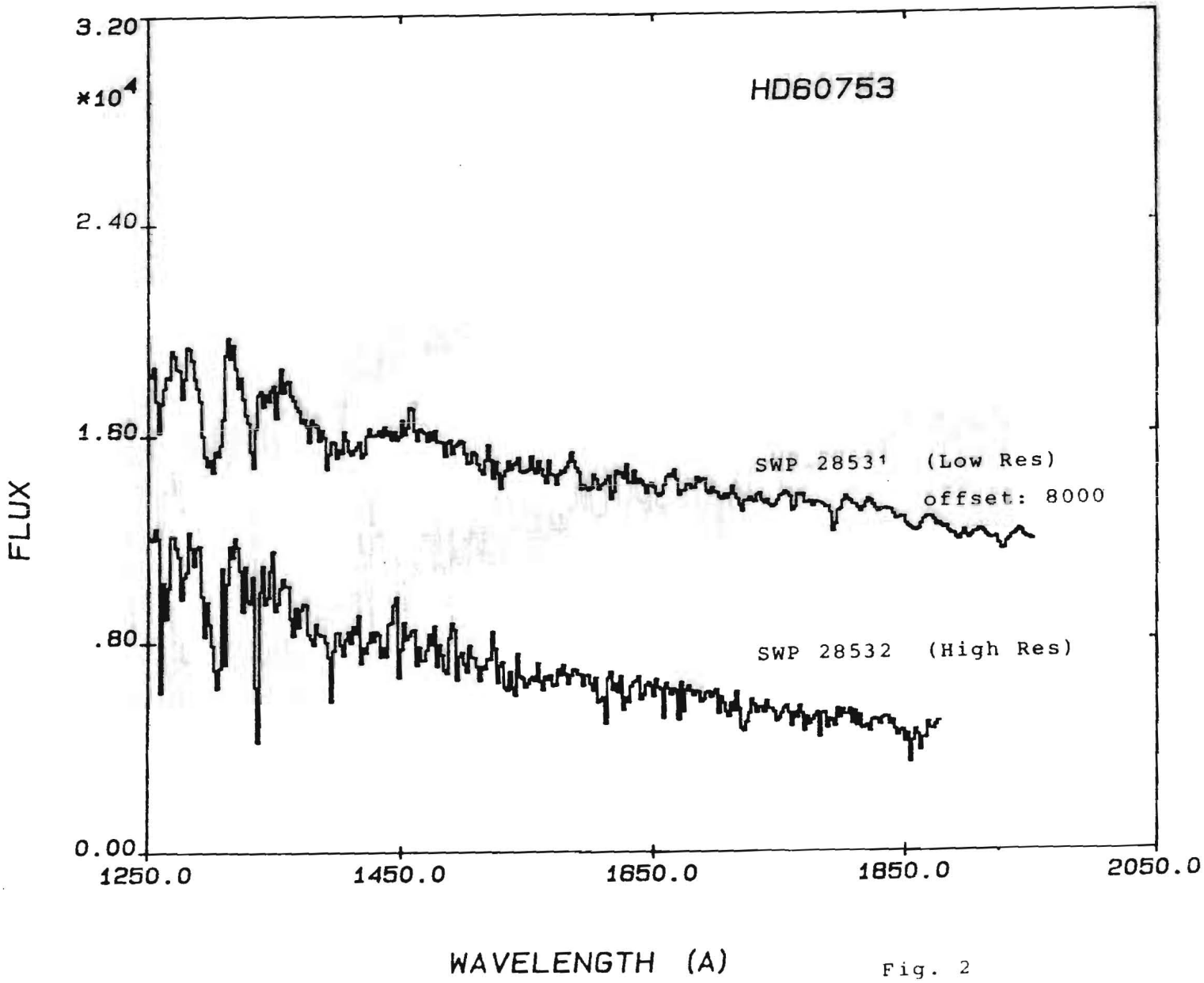
HD60753
3.20
*10^4
2.40
1.60
.80
0.00
FLUX
SWP 28531 (Low Res)
offset: 8000
SWP 28532 (High Res)
1250.0
1450.0
1650.0
1850.0
2050.0
WAVELENGTH (A)

Fig. 2

Absolute calibration of the LWP with ITF2

A. Cassatella, C. Lloyd (*) and R. Gonzalez Riestra
VILSPA IUE Observatory

1. Introduction

In this paper we present the new absolute calibration based on ITF2. We have already shown (Cassatella and Lloyd, 1987) that ITF2 has superior linearity and signal-to-noise to ITF1 and have also presented a preliminary absolute calibration based on the new ITF (Cassatella et al. 1987). The calibration presented here includes a further OAO standard, lamda Lep, and almost twice as many spectra for zeta Cas as in the preliminary calibration. We have also added four more spectra of the TD1 standard BD+28 4211.

2. Observations

This calibration is based on three OAO standards, zeta Cas, lamda Lep and 10 Lac, and on three TD1 standards, HD 60753, BD+28 4211 and BD+75 325. The image numbers are given in Tables 1 and 2. The OAO standard mu Col has not been used as there are now doubts about its constancy. The spectra used have been limited to the years 1983 to 1986, with most falling into the middle two years. This restriction has reduced the number of spectra used, but it is forced by the changes in the sensitivity of the LWP of the past few years (Sonneborn and Garhart 1987). The mean date of the calibration is 1984.9, i.e. close to the date the LWP ITF2 exposures were taken.

The exposure times of the ITF2 net extracted spectra were normalized to the effective exposure time calculated taking into account the OBC step (0.4096s), the dependence on THDA (Sonneborn 1984) and the camera rise time (0.12s; Imhoff 1983). The data have been corrected for the THDA sensitivity dependence given by Sonneborn (1984).

Input fluxes for the calibration standards were taken from Bohlin (1984).

The present calibration is based only on point source, large aperture spectra. This applies also to the OAO standards, which have been observed with exposure times of one to two OBC steps. The use of such short exposure times introduces a source of inaccuracy into the effective exposure times owing to the command decoder cycle time. However, such effects should cancel out when a statistically significant sample of observations is used.

(*) Present address: Rutherford Appleton Laboratory, U.K.

Trailed spectra were not used, because the ratio of untrailed to trailed spectra has been shown to be wavelength dependent with LWP ITF2 also (Cassatella and Lloyd, 1987).

To improve the signal-to-noise ratio at the short wavelength end of the camera, a number of spectra were taken which were well exposed in the region 2000- 2200 A. The mean flux numbers were obtained for each standard by averaging together data in the well exposed spectral regions only.

3. Results

The inverse sensitivity of the LWP with ITF2 was first obtained separately for each of the six standards used. One important result is that the mean curve corresponding to the TD1 standards agrees well with the mean curve for the OAO standards, the one sigma errors of S_λ^{-1} (TD1-OAO)/OAO in the bands 1900-2000A, 2000-2200A, 2600-2800A, and 2800-3100A being 4.3%, 2.8%, 3.5%, and 3.0%, respectively. The inverse sensitivity curve was then obtained as the weighted average of the TD1 and OAO sensitivity curves in the common region 1850-2725 A, and as the mean OAO curve in the region 2750-3350 A. Weights were given according to the number of observations available for each standard. The value S_λ^{-1}(3350 A) is based on 10 Lac, the only OAO standard with known fluxes at this wavelength. The resulting inverse sensitivity curve was then slightly smoothed in the wavelength range 1975 to 3100 A by making use of a three point gaussian smoothing. The smoothed curve agrees with the original data to better than 1%, on average. Outside the range 1975-3100 A, the original data were taken because the smoothing technique was found to modify the original data by more than 1%.

The final LWP-ITF2 inverse sensitivity curve is given in Table 3 and plotted in Fig. 1. The errors we attach to this sensitivity curve are the mean repeatability errors in FN/t for the different standards. Such errors are typically around 2-3% in the region 2000 to 3300 A (2.23 % +/- 0.66% in the case of BD+ 28 4211). The repeatability errors are slightly larger (4% to 5%) for the OAO standards, probably because of the uncertainties on the exposure times introduced by the command decoder cycle time.

4. Comparisons

To verify the present calibration we have performed the following comparisons:

a) comparison with TD1 and OAO input fluxes (check of internal consistency). Figs. 2, 3 and 4 show a comparison between our mean flux-calibrated spectra of lambda Lep, 10 Lac and BD+28 4211 and the TD1 or OAO input fluxes from Bohlin (1984). The mean error $(F_\lambda(\text{stan}) - F_\lambda(\text{IUE}))/ F_\lambda(\text{stan})$ is + 0.022 +/- 0.06 for BD+28 4211 in the range 2200-2725 A, and -0.022 +/- 0.025 and +0.016 +/-0.026 for the OAO standards lambda Lep and 10 Lac in the range

2200-3000A, respectively. In the range 1850-2200 A the mean errors are: 0.082 +/- 0.079 for 10 Lac and 0.017 +/- 0.060 for lambda Lep.

b) comparison with LWR data. In Fig 5 we plot the ratio of fluxes from LWR17001 (corrected for the camera sensitivity loss as given by Clavel et al. 1988) and from LWP4593 of BD +28 4211. The figure shows that the present calibration provides lower fluxes than LWR, by 3-4% on average.

c) comparison with IUE mean fluxes (see Bohlin 1986). The comparison is given in Figs. 6 and 7, showing the flux ratio $(F_\lambda(LWP)-F_\lambda(Bohlin))/F_\lambda(Bohlin)$ for BD+28 4211 and HD60753. The figures indicate that Bohlin's IUE mean fluxes are slightly larger in comparison to those obtained through the present calibration.

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Bohlin, R.: 1984, IUE NASA Newsl. No. 24, p. 74

Bohlin, R.: 1986, Ap. J. 308, 1001

Cassatella, A. and Lloyd, C., 1987, IUE ESA Newsletter 27, p. 13

Cassatella, A., Lloyd, C. and Gonzalez Riestra, R., 1987, Report of 3-agency meeting, VILSPA, p II2b-1

Clavel, J., Gilmozzi, R., Prieto, A.: 1988, Astron. Astrophys. 191, 392

Imhoff, C.: 1983, Report Three Agency Meeting, GSFC

Sonneborn, G., 1984, Report of 3-agency meeting, GSFC, p. A-160

Sonneborn, G. and Garhart, M., 1987, NASA IUE Newsl. No. 31 p. 29

Table 1
LWP images of OAO standards

zeta Cas	lamba Lep	10 Lac
100%		
2931	5019	5040
4866	5021	5043
5041	6637	5045
6503		6204
6505		
6507		
6570		
7210		
200%		
5042	5020	5044
6504	6639	6205
7070	6948	6206
7211	6949	6207

Table 2
LWP images of TD1 standards

HD 60753	BD+28 4211	BD+75 325
100%		
2344	2012	1863
2701	3182	3537
2714	3289	3916
2716	3307	5218
2717	3970	5219
2838	4037	5293
3415	4593	5423
3689	6039	5860
3938		6045
4122		6046
4558		
200%		
5887	2495	2455
5889	2504	5861
	3308	

Table 3: LWP inverse sensitivity curve (ITF2)

Lambda (A)	$S_\lambda^{-1} \times 10^{14}$
1850	18.0
1875	10.54
1900	6.88
1925	4.88
1950	3.314
1975	2.642
2000	2.392
2025	2.220
2050	2.092
2075	2.040
2100	1.988
2125	1.945
2150	1.934
2175	1.943
2200	1.945
2225	1.880
2250	1.757
2275	1.603
2300	1.473
2325	1.327
2350	1.191
2375	1.061
2400	.962
2425	.875
2450	.811
2475	.754
2500	.704
2525	.646
2550	.595
2575	.559
2600	.537
2625	.513
2650	.488
2675	.470
2700	.464
2725	.458
2750	.454
2775	.455
2800	.461
2825	.472
2850	.482
2875	.496
2900	.516
2925	.546
2950	.585
2975	.641
3000	.713
3025	.814
3050	.941
3075	1.113
3100	1.328
3125	1.612
3150	1.979
3175	2.457
3200	3.117
3225	4.001
3250	5.264
3275	6.881
3300	9.017
3325	12.34
3350	18.0

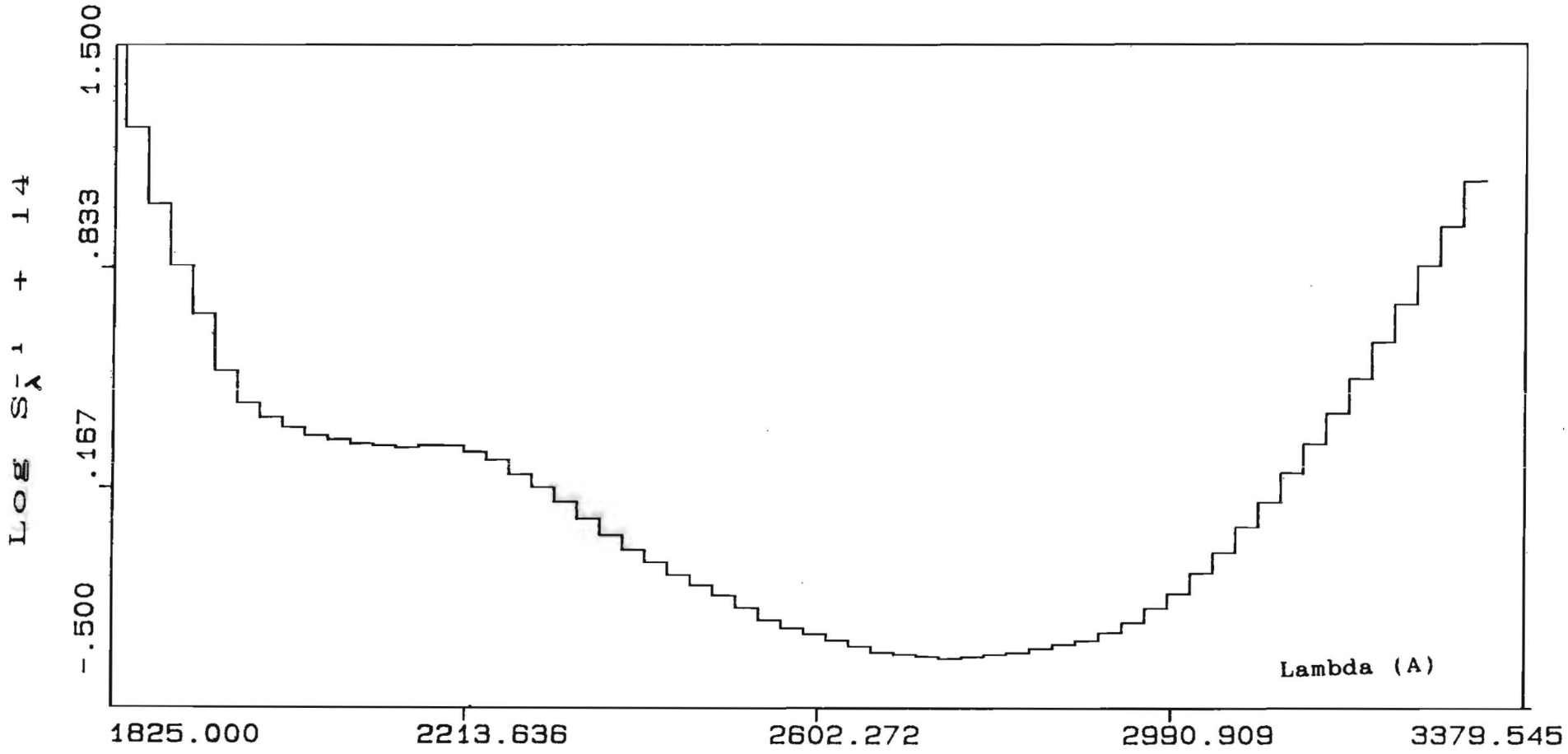


Fig. 1: Log S_λ^{-1} for the LWP camera (ITF2)

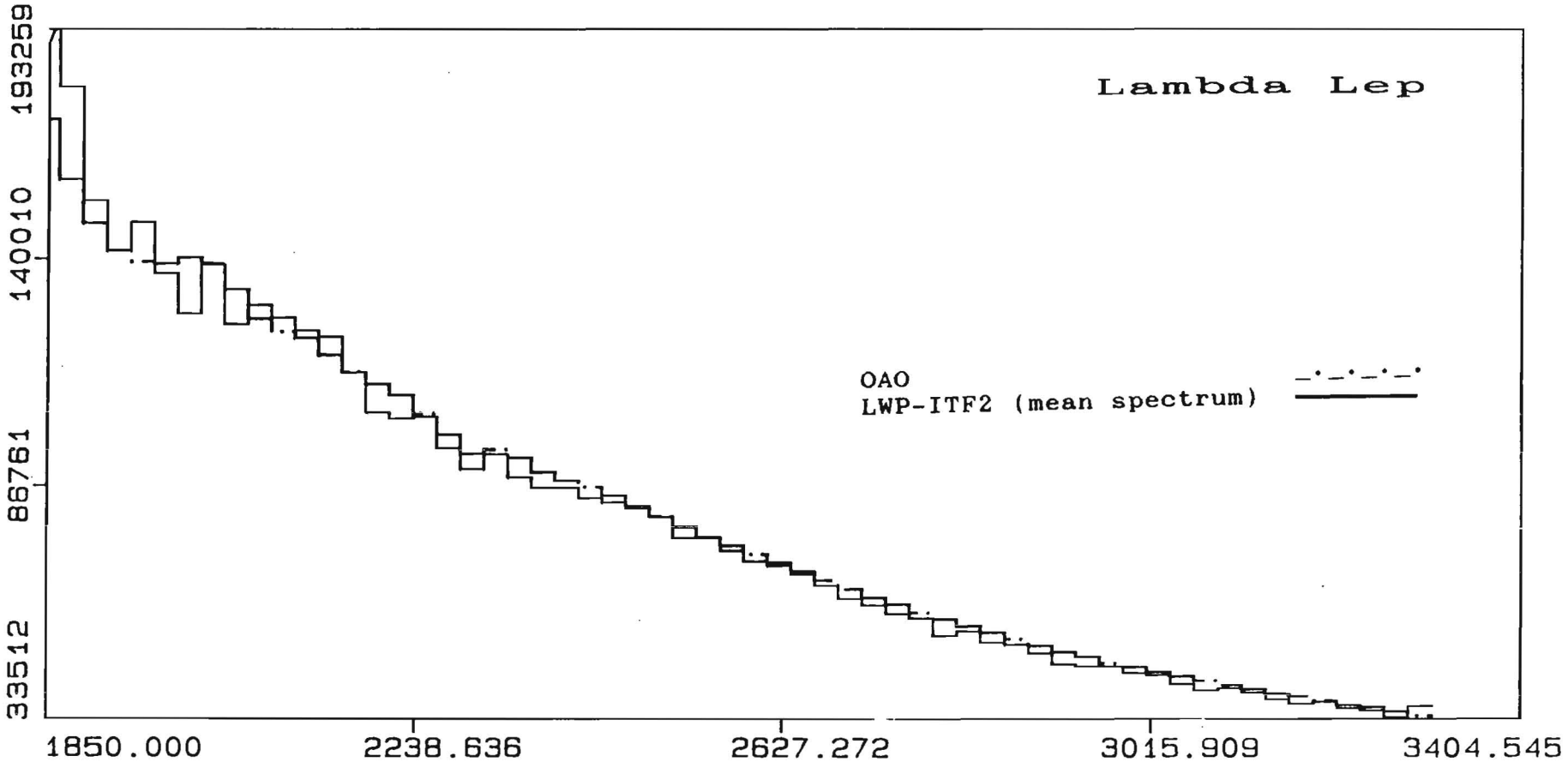


Fig. 2: Energy distribution of Lambda Lep.
Fluxes are in units of 10^{-14} ergs $cm^{-2}s^{-1}A^{-1}$

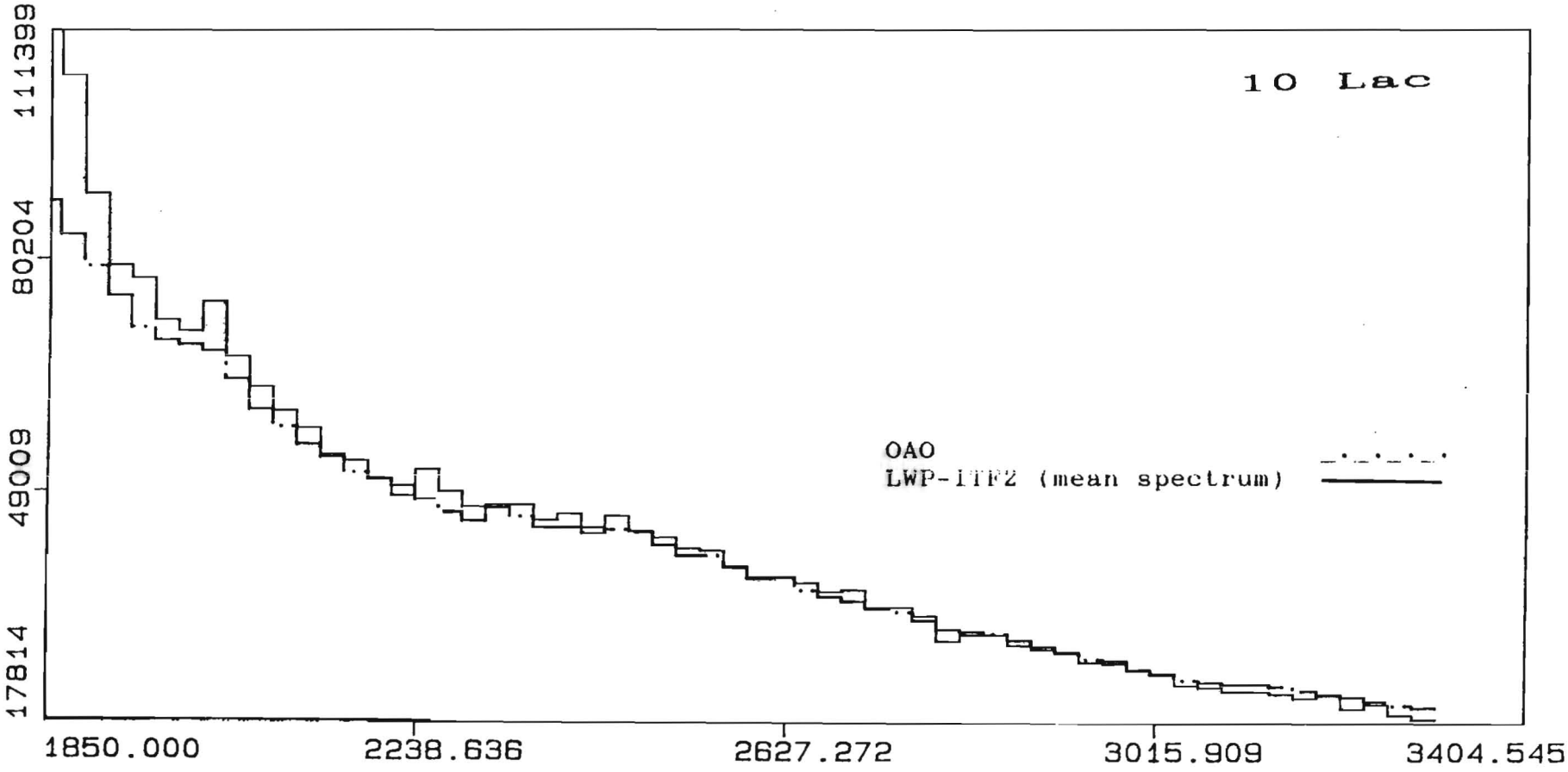


Fig. 3: Energy distribution of 10 Lac.
Fluxes are in units of 10^{-14} ergs $cm^{-2}s^{-1}A^{-1}$

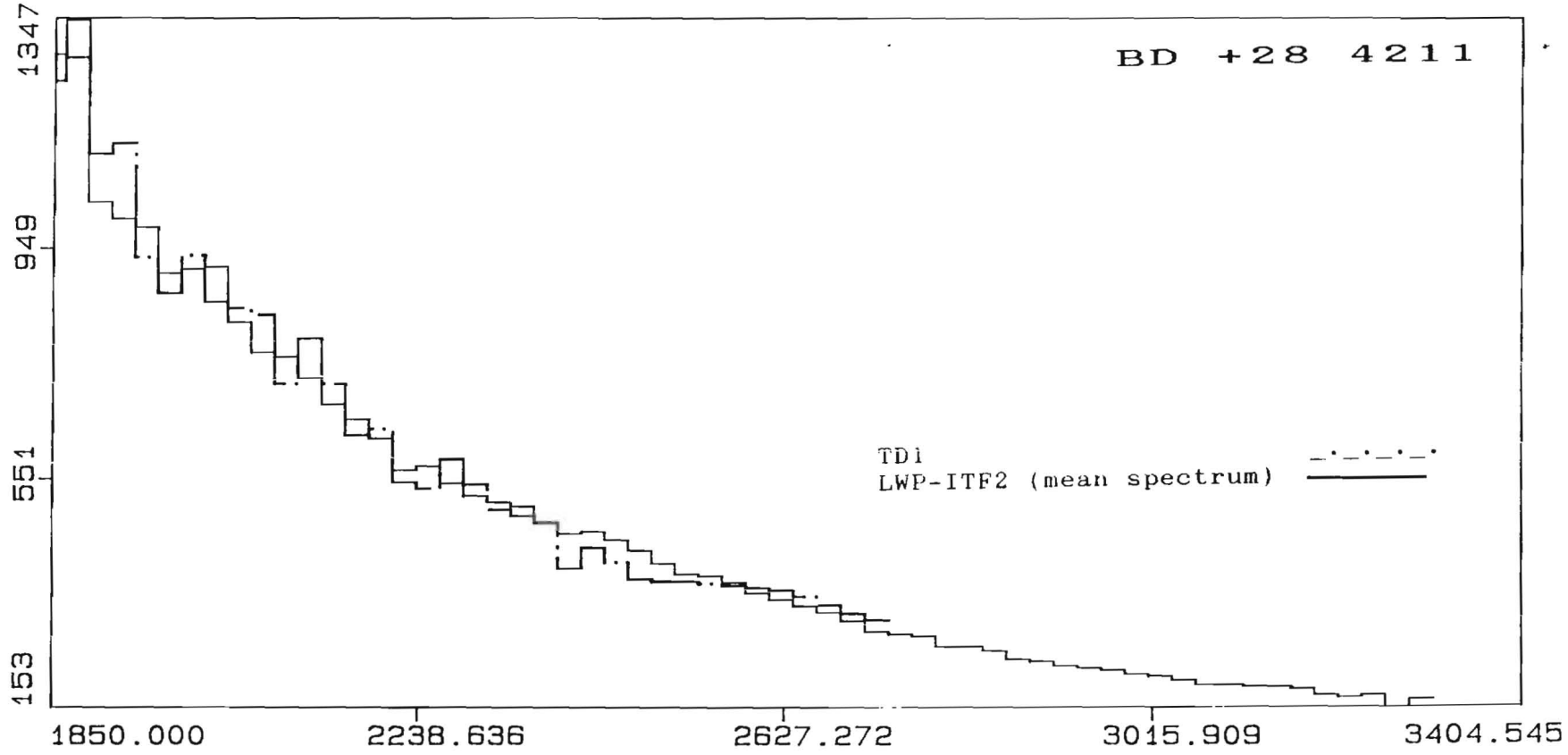


Fig. 4: Energy distribution of BD+28 4211.
Fluxes are in units of 10^{-14} ergs $cm^{-2}s^{-1}A^{-1}$

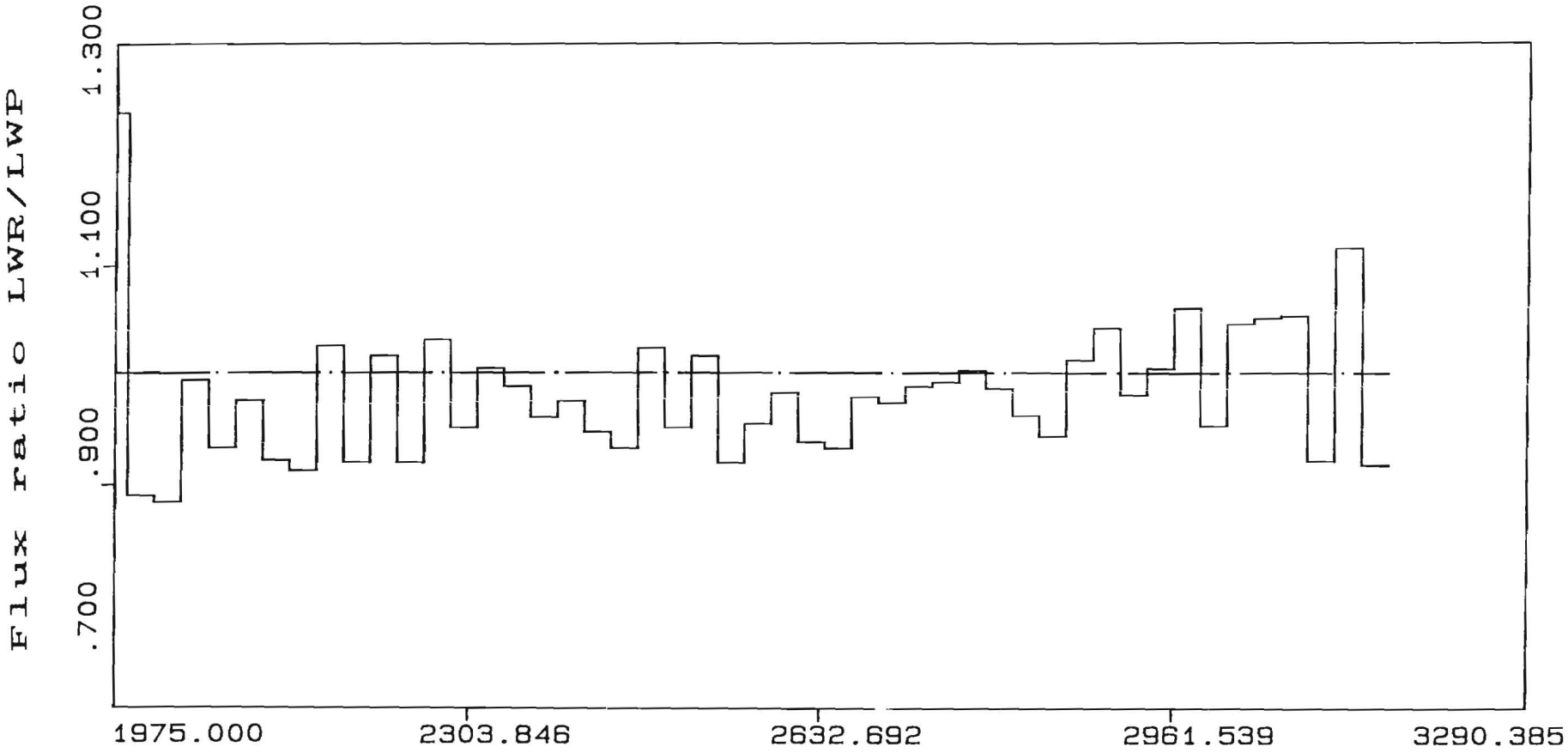


Fig. 5: Flux ratio LWR/LWP for BD+28 4211 (images used: LWR17001 and LWP 4593)

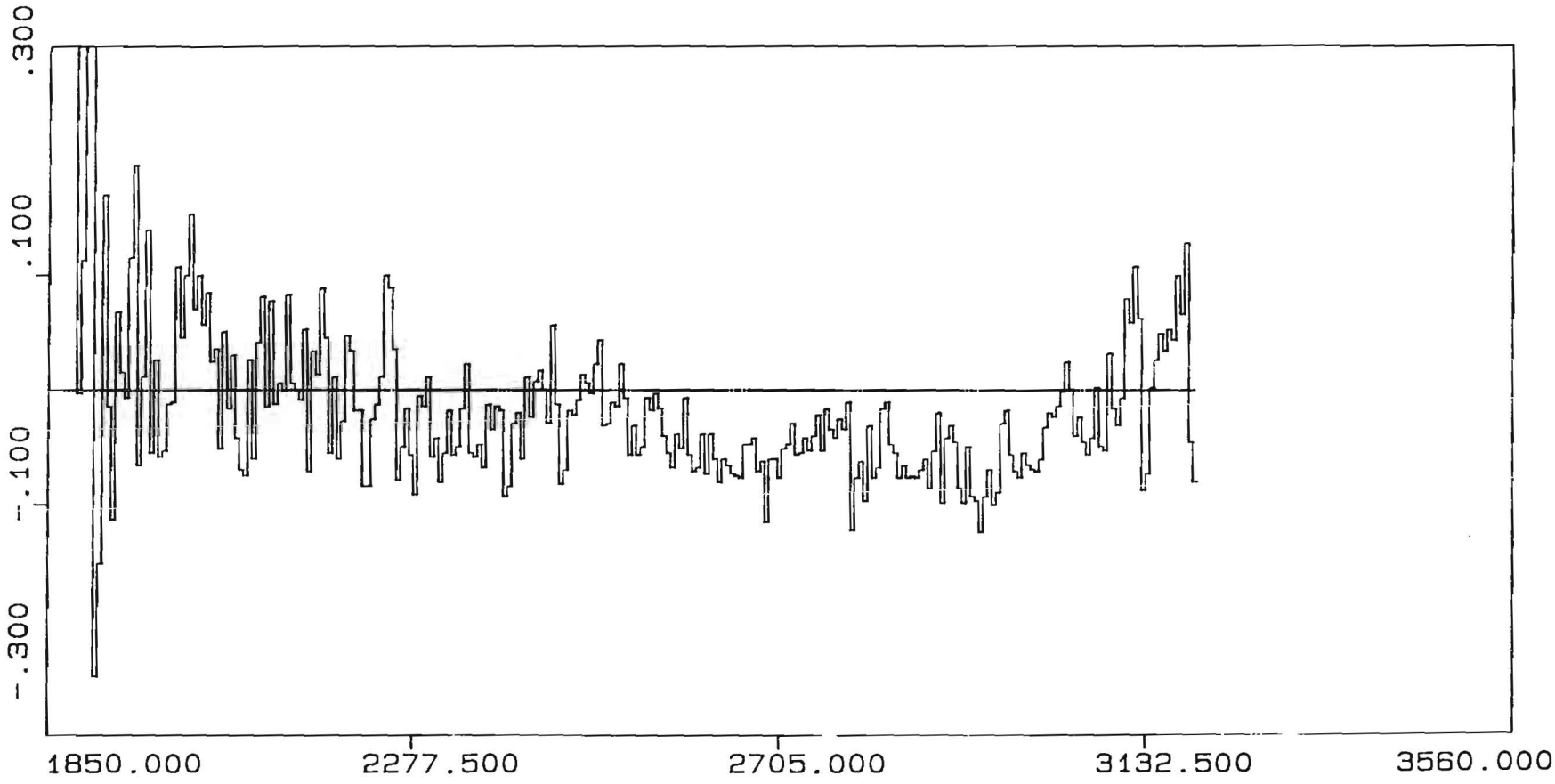


Fig. 6: Flux ratio of the mean LWP spectrum of BD+28 4211 to the mean IUE fluxes from Bohlin (1986)

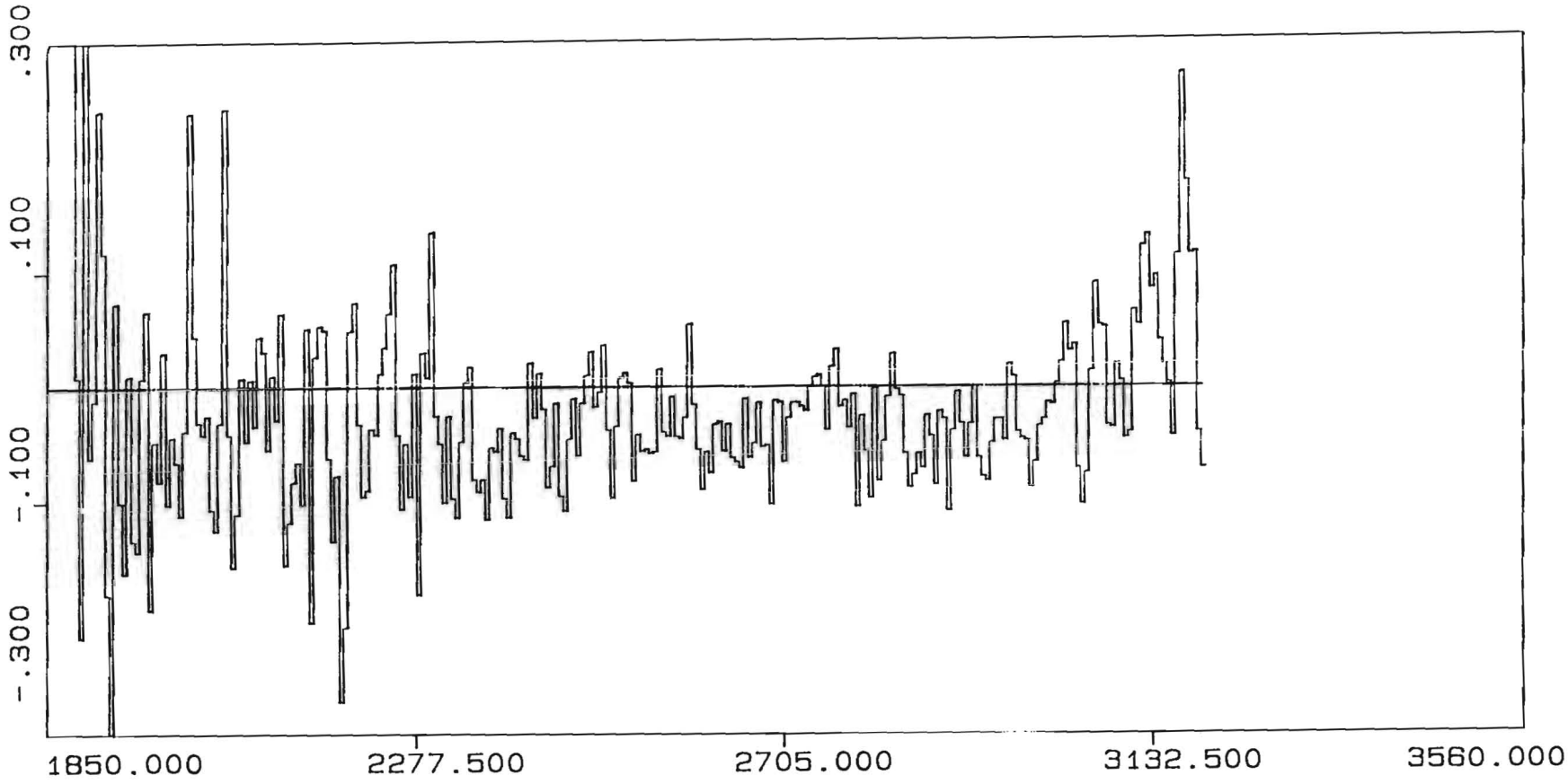


Fig. 7: same as Fig. 6 for HD60753

HIGH RESOLUTION ABSOLUTE CALIBRATION: DATA FORMAT CHANGES

T. MARTIN, VILSPA

The processing of an IUE high dispersion image produces three files on tape: Raw Image file, Photometrically corrected Image file and Merged Extracted Spectra file.

The only IUE output product affected by the implementation of the absolute calibration at high resolution is the Merged Extracted Spectra file (MEHI) of the G.O. tape.

The file structure is fully explained in the IUE Image Processing Information Manual v 2.0 but here we concentrate on changes brought about by the implementation of the high resolution absolute calibration. An MEHI file consists of two parts: label and data.

The label part is made up of between 20 and 30 physical records of 360 bytes each which contain data relevant to the observation and subsequent image processing.

The data part is composed of 361 records for SWP images or 325 records for LWP/LWR images. In both cases the first record of the data portion of the file is the scaling-factor record (also called Record Zero) and it contains information describing the data records that follow it. The remaining records of data are logically grouped in groups of six records, each associated with an order (Wave, Epsilon, Gross, Background, Net and Ripple-corrected Net).

Since SWP images contain 60 orders the total number of data records is: 60 * 6 = 360 (+ Record Zero = 361).

LWP and LWR images contain 54 orders, therefore the total number of data records in this case is: 54 * 6 = 324 (+ Record Zero = 325).

Each data record is 2048 bytes long providing 1024 data points for each order.

Figure 1 illustrates this structure.

The structure of the MEHI file on the G.O. tape has been affected by the implementation of the Absolute Calibration as explained in the following paragraphs.

The main alteration is the incorporation of a new data record in each logical group of data records representing the absolutely calibrated net spectrum for that order.

Thus there is a new data record per order (now seven in total) and it is placed after the ripple-corrected net spectrum on the tape. This increases the data portion of the MEHI file as follows:

- The number of data records of SWP images changes from: 361 (60 * 6 + 1) into 421 (60 * 7 + 1)

- The number of data records of LWP/LWR images changes from: 325 (54 * 6 + 1) into 379 (54 * 7 + 1)

Now, since the size of the data portion of the file is reflected in the first record of the label (no. of lines - no. of samples), this has also been modified to the new value: 421 - 2048, or 379 - 2048.

The following entries of the Record Zero have also been altered:

- Entry no. 8 contains the number of data records per group (i.e. per order). This value has changed from 6 to 7.

- Entries no. 65 through 68 were spares in the previous version. Now they are assigned the following contents:

  - Entry no. 65 contains the scaled minimum flux for ABNET.*

  - Entry no. 66 contains the scaled maximum flux for ABNET.

  - Entry no. 67 contains the scale factor J for ABNET.

  - Entry no. 68 contains the scale factor K for ABNET.

  Note that the actual flux value = (tape value) * J * 2**(-K).

* Net absolutely calibrated spectrum

The changes explained above affect several pages of the Image Processing Information Manual Version 2.0 (European Version):

Paragraph 8.2.2.2 of that manual which describes the

format of the Extracted spectra file (MEHI) needs to be updated where it references the number and type of spectra contained in MEHI file. Figure 8-8 of the Manual which illustrates the data records structure for MEHI file should be updated as indicated in Figure 2, here.

The Record Zero format given in table 8-2 of the manual is superseded by that one given in Table 1 of page 11-16 (in the chapter describing the ELBL implementation), but the latter should also be updated as indicated in Table 1 of this document.

Example:

As a test example two spectra of the same object were processed and then all orders of the two spectra were merged in the plot shown in Figure 3.

The images SWP 31635 and LWP 11474 of HD152270 were processed with the new s/w. Their absolutely calibrated spectra were merged using the Interactive Image Processing system IHAP and the results show good agreement between SWP and LWP data in the camera overlap region.

TABLE 1

Format of Scale Factor Record
(Record Sequence Number Zero - revised for inclusion of absolute calibration of high dispersion)

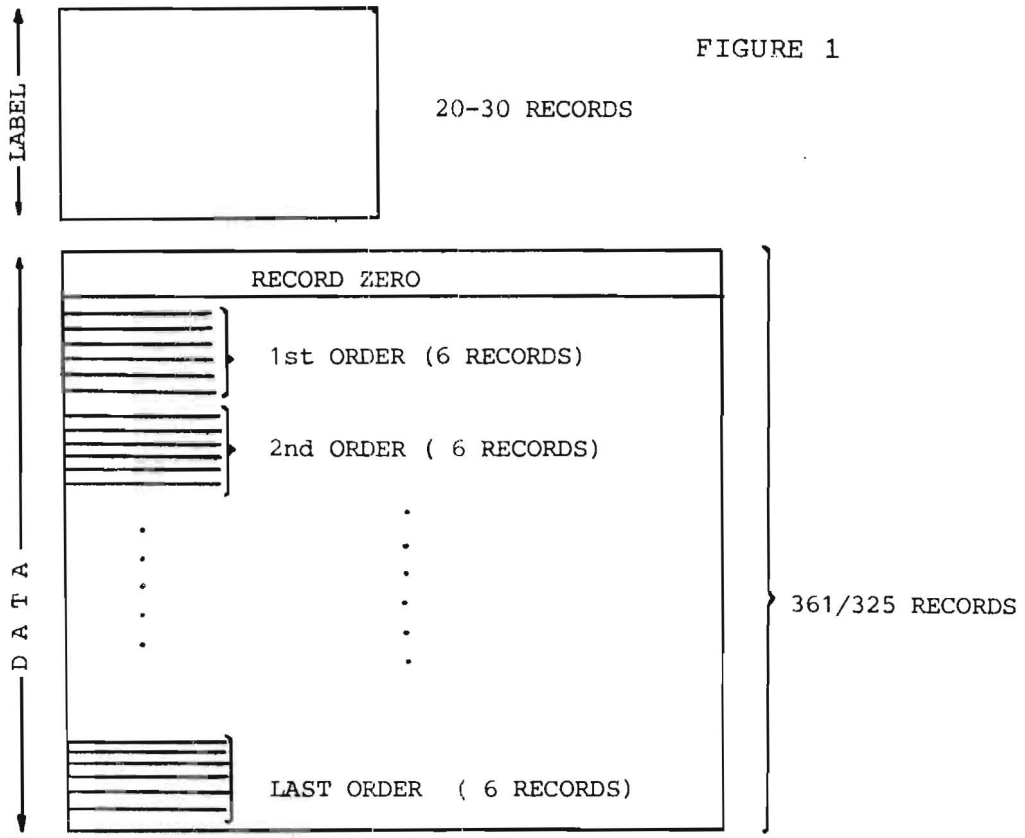
Item (16-bit halfword)		Quantity
1		Zero (for record 0)
2		1022 (Maximum number of halfword entries in remainder of record 0)
3		Minimum wavelength (truncated to nearest A)
4		Maximum wavelength (rounded to nearest A)
5		Number of orders present
6		Camera Number
7		Image Number
8		Number of records per group (i.e. per order)
9		Year
10		Day Number of midpoint of
11		Hour observation (GMT)
12		Min
13-16		As 9-12 for time of image processing (GMT)
17		Target aperture (1=large, 2=small)
18		Total line shift (pixels * 1000)
19		Total sample shift (pixels * 1000)
20	+++	THDA 10 (C) used for reseau correction (normally at the time of read)
21		Scaled minimum flux for Gross
22		Scaled maximum flux for Gross
23		J for Gross where actual FN = data on
24		K for Gross tape * J * 2(-K)
25-28		as in 21-24 for Background
29-32		as in 21-24 for Net
33-36		as in 21-24 for Absolute Net (Low) or Ripple Corrected Net (High)
37		"Plate" scale factor for ELBL file (=1078) (Arcsec 1000)
38		(Julian Date - 2440000) at midpoint of observation
39		Fraction of Julian Date (*10000) at midpoint of observation
40-41		Spares
42-44	NI	Minutes, seconds and milliseconds of exposure in target aperture
45		Hours
46		Minutes Right Ascension of target
47		Seconds * 10

48		Degrees
49		Arc Minutes Declination of target
50		Arc seconds
51-53	++	(Vx, Vy, Vz) Velocity of Earth in celestial coordinates (km/sec * 10)
54-56	++	(Vx, Vy, Vz) Same as 51-53 for IUE with respect to Earth, at midpoint of exposure
57	++	Net velocity correction applied (km/sec * 10)
58		Omega angle (degrees * 10) (Zero in High)
59		Wavelength scaling factor [5 = low, 500 = high, where actual λ = (λ on tape)/scal. factor] + λ_o
60		Background slit height - Low
61		Background distance - Dispersion from dispersion line - only (pixels * 100)
62		Dispersion constant shift mode (0 = no shift, 1 = auto shift, 2 = manual shift)
63	NI	Bright Spot removal threshold DN
64		THDA * 10 for dispersion constant correction (normally at the end of the exposure)
65		Scaled minimum flux for ABNET
66		Scaled maximum flux for ABNET
67		J for ABNET where actual ABNET = data
68		K for ABNET on tape * J * 2**(-K)
69-70		Spares
71-102		For use of IUE Regional Data Analysis Facility
103-202		Offset wavelengths for each order
203-302		m, order number for each order
303-402		Number of extracted data points for each order
403-502		Slit height for each extracted order (pixels*100) In the ELBL, only item #403 is used (pixels*1000)
503		Sign and first 4 digits after decimal of dispersion constant A1
504		Sign and second set of 4 digits after decimal of dispersion constant A1
505		Sign and third 4 digits after decimal of dispersion constant A1
506		Exponent (including sign) of dispersion constant A1 where: A1=[item (503)*10**(-4) + item (504)*10**(-8) + item (505)*10**(-12)]*10**[item (506)]
507-538		As above, for dispersion constants A2 through A9
539-574		As above, for dispersion constants B1 through B9
575-1024		Spares

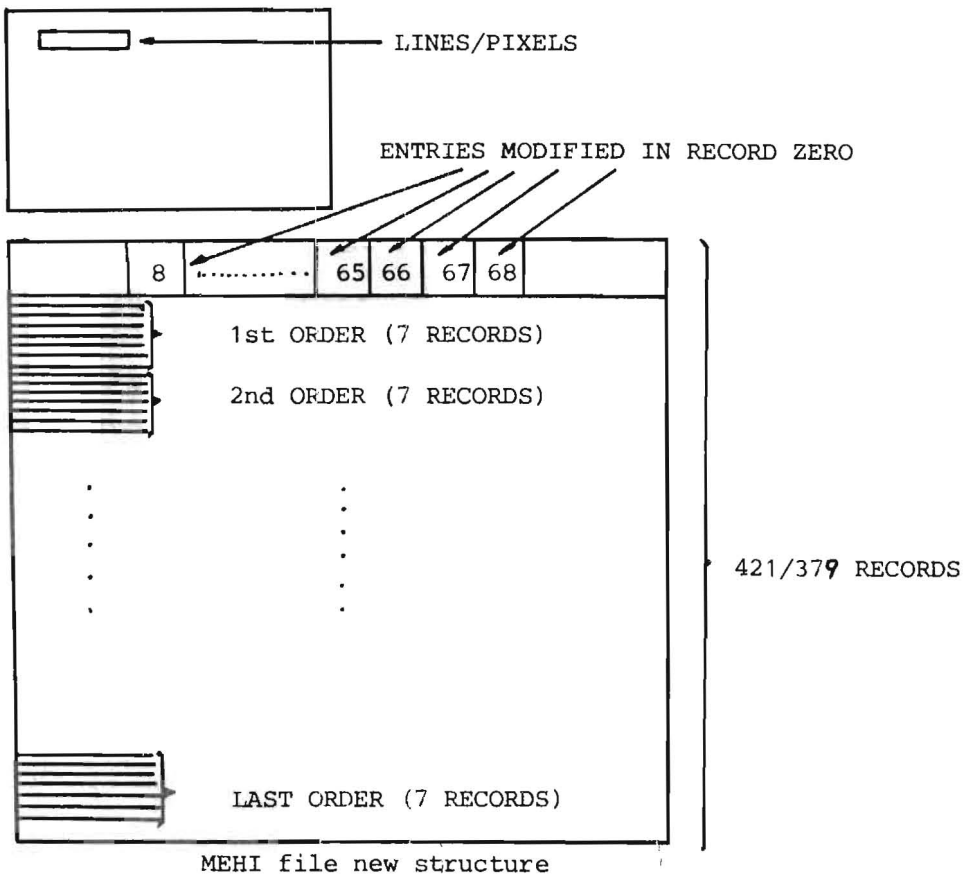
++ High Dispersion only

+++ Currently used to correct reseau positions for the LWR and LWP camera

FIGURE 1



MEHI file old structure



MEHI file new structure

FIGURE 2

DATA RECORD STRUCTURE FOR MERGED HIGH DISPERSION SPECTRAL FILE (MEHI)

2048 BYTES

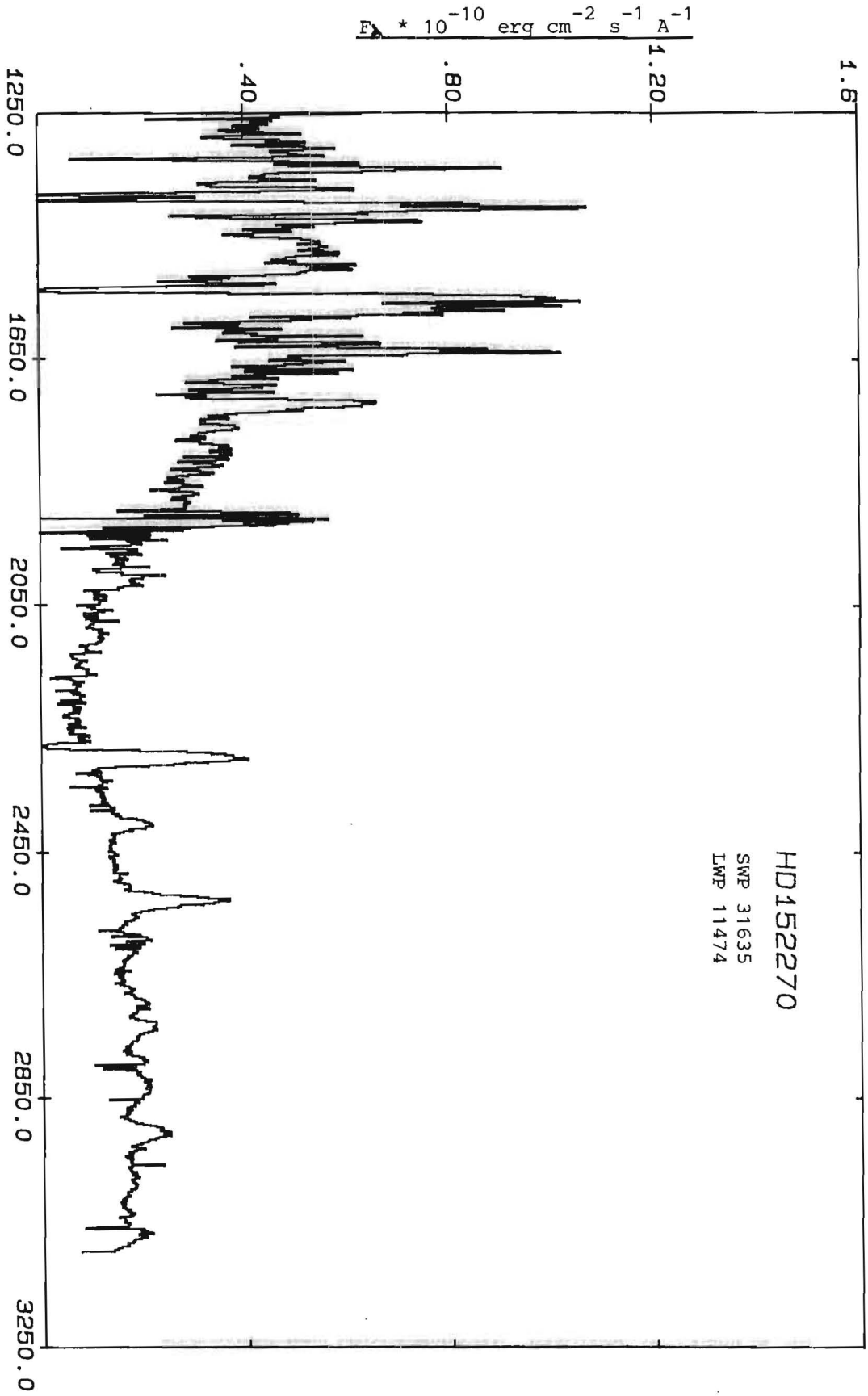
	HALFWORD 1	HALFWORD 2	HALFWORD 3	HALFWORD 4	HALFWORD 5	HALFWORD 6	.....	HALFWORD 1024	
RECORD 1	0	1022	λMIN	λMAX	CAM. NO.	IMAGE NO.	ETC.		SCALE RECORD
ORDER 125 RECORD 2	1	NO POINTS	L_1	L_2	L_3	L_4	ETC.		SCALED λ's
RECORD 3	2	NO POINTS	ϵ_1	ϵ_2	ϵ_3	ϵ_4	ETC.		ϵ's
RECORD 4	3	NO POINTS	G_1	G_2	G_3	G_4	ETC.		SCALED GROSS
RECORD 5	4	NO POINTS	I_1	I_2	I_3	I_4	ETC.		SCALED INTERORDER
RECORD 6	5	NO POINTS	N_1	N_2	N_3	N_4	ETC.		SCALED NET
RECORD 7	6	NO POINTS	A_1	A_2	A_3	A_4	ETC.		SCALED RNET
RECORD 8	7	NO POINTS	C_1	C_2	C_3	C_4	ETC.		SCALED ABNET
ORDER M RECORD R-6	R-7	NO POINTS	L_1	L_2	L_3	L_4	ETC.		SCALED λ's
RECORD R-5	R-6	NO POINTS	ϵ_1	ϵ_2	ϵ_3	ϵ_4	ETC.		ϵ's
RECORD R-4	R-5	NO POINTS	G_1	G_2	G_3	G_4	ETC.		SCALED GROSS
RECORD R-3	R-4	NO POINTS	I_1	I_2	I_3	I_4	ETC.		SCALED INTERORDER
RECORD R-2	R-3	NO POINTS	N_1	N_2	N_3	N_4	ETC.		SCALED NET
RECORD R-1	R-2	NO POINTS	A_1	A_2	A_3	A_4	ETC.		SCALED RNET
RECORD R	R-1	NO POINTS	C_1	C_2	C_3	C_4	ETC.		SCALED ABNET

M = { 66 (SWP) (60 ORDERS); { 72 (LWR); 72 (LWP) } (54 ORDERS) }

R = { 421 (SWP); 379 (LWR); 379 (LWP) }

NOTE:
- G_i = i^{th} SCALED GROSS FLUX (IN EACH GIVEN ECHELLE ORDER)
- I_i = i^{th} SCALED INTERORDER FLUX (IN EACH GIVEN ECHELLE ORDER)
- N_i = i^{th} SCALED NET FLUX (IN EACH GIVEN ECHELLE ORDER)
- A_i = i^{th} SCALED RIPPLE CORRECTED NET FLUX (IN EACH GIVEN ECHELLE ORDER)
- C_i = i^{th} SCALED ABSOLUTELY CALIBRATED NET FLUX
- NO POINTS = NO. OF EXTRACTED DATA POINTS (IN EACH GIVEN ECHELLE ORDER)

FIGURE 3


F$_\lambda$ * 10^{-10} erg cm^{-2} s^{-1} A^{-1}
.40
.80
1.20
1.6
1250.0
1650.0
2050.0
2450.0
2850.0
3250.0
HD152270
SWP 31635
LWP 11474

REPROCESSING OF THE IUE ARCHIVE: CURRENT STATUS AND PLANS

J. Clavel - Vilspa

The IUE archive currently contains over 60000 ultraviolet spectra of more than 10000 different astronomical sources of all kinds. These data, which have been acquired over the last 10 years represent an invaluable scientific tool, well suited for various purposes such as the statistical analysis of a class or the study of the long-term variability properties of, say, cool stars or active galaxies. The fact that the number of spectra which have been de-archived exceeds by a factor of three the number of spectra in the data bank is a clear illustration of the importance of the archive for the scientific community.

The IUE archive nevertheless suffers from a lack of homogeneity which impairs its optimal scientific use. This inhomogeneity only affects the processed spectra, the raw data acquisition procedure and hardware configuration having changed very little over the years. The processed data however, are those which are of real interest to the scientific community since they are in the directly interpretable form of a table of fluxes versus wavelength. It is the IUE Spectral Image Processing System (IUESIPS) which converts the raw data as they come down from the S/C into a scientifically useful set of numbers. IUESIPS has two basic components: the software which performs the data manipulation and the various calibration files which are applied to the astronomical spectra by the S/W. Perhaps unavoidably, both the software and the calibration have evolved and improved over the years. As a result, recent data are generally of a better quality than the earlier spectra.

This problem of a lack of homogeneity in the processed archive has been identified for quite sometime, but it is only recently that the IUESIPS has stabilized to the point where reprocessing becomes viable. In June 1987, the Long Range Planning Committee (LRPC), an external body whose task is to advise the IUE project on scientific matters, made a recommendation that the archive be reprocessed with the best possible IUESIPS. They also recommended that the reprocessing be initiated not later than late 1989. As acknowledged by the LRPC, the reprocessing of a large fraction of or even the entire IUE archive is a major effort. Hence the importance of ensuring that it is done correctly and that all possible improvements are incorporated in IUESIPS before it is frozen.

Several calibration and S/W enhancements have been identified and assigned priorities. The area where the effort is the largest is undoubtedly that of the calibration.

Highest on the list of priorities was the construction of new Intensity Transfer Function (ITF's) for all three operational cameras. In fact, the taking of new ITF's images had started well before the LRPC recommendation. The ITF maps, on a pixel-by-pixel basis, the raw Data Numbers (DN) to Flux Numbers (FN). Then the FN's should be related linearly to absolute fluxes with a simple, although wavelength-dependent multiplicative factor. This factor is the absolute calibration. Therefore, the ITF's and absolute calibrations are intimately linked.

The acquisition of a series of graded exposures with on-board UV-flood lamps and construction of the ITF's has now been completed for the three cameras. In December 1987, the new LWP ITF together with its corresponding absolute low-resolution calibration (Cassatella, Lloyd and Gonzalez-Riestra 1988) was implemented in IUESIPS. It greatly improves the S/N ratio and the accuracy of the processed spectra (Cassatella and Lloyd 1987). The evaluation of the new SWP ITF did not show such a dramatic improvement as to justify its immediate implementation (Nichols-Bohlin 1987). Moreover, no revised absolute calibration is as yet available with this new ITF, although the acquisition and the processing of about 150 SWP spectra of IUE standard stars is now completed. As for the LWR camera, its re-calibration is complicated by various factors: first, its sensitivity has decreased by a significant amount over the years (Sonneborn and Garhart 1986; Clavel, Gilmozzi and Prieto 1988); and second, it has developed a "flare" which forces it to be operated at a reduced UVC voltage of 4.5 kV instead of the normal 5 kV (Lloyd 1987). Nevertheless, a new ITF and calibration are available for this camera as well, but further testing is necessary before it is put into production (Oliversen 1987). Note that the new LWR ITF was obtained with a 5 kV setting instead of the 4.5 kV used nowadays. It has been shown however, that the new ITF could safely be used to process current 4.5 kV LWR images (Imhoff 1986; Harris 1985).

More generally, the question of whether it is better to apply "new" ITF's and calibrations to "old" data rather than "old" ITF's (and vice-versa) is a complex issue which has not been fully settled yet. It has been shown for instance, that the flat field characteristics of the IUE cameras have changed significantly over the years, the rate of variations being the largest during a settling period which corresponds to the acquisition of the first 3000 images or so (Imhoff

1987). It is therefore to be expected that processing 1978 and maybe 1979 data with the current (old) ITF's will yield better results in terms of linearity and S/N ratio than with the new ITF's. The exact moment at which the switch from "old" to "new" could be desirable remains to be determined.

In the area of calibration enhancements, one should also note the December 1987 implementation at VILSPA of the high resolution absolute calibration of Cassatella et al (1988) in IUESIPS. Other future improvements include the extension of the wavelength range and an increased spectral resolution for the low resolution absolute calibrations. This has already been implemented in the case of the new LWP calibration which extends up to 3350 A with a step of 25 A instead of the current values of 3200 A and 50 A respectively. Other future improvements which have been assigned a high priority are the inclusion of thermal and time dependences in the absolute calibration. The sensitivity dependence of the IUE cameras upon the temperature of their head amplifier (THDA) is well documented (Schiffer 1982; Harris 1983; Sonneborn 1983) and could be incorporated easily into IUESIPS. The camera sensitivity as a function of time and wavelength is also well documented at least for the LWR (Clavel,Gilmozzi, Prieto,1988) and SWP (Bohlin and Grillmair 1988) and to a lesser extent for the LWP (Sonneborn and Garhart 1986) and its implementation in IUESIPS should also be relatively easy.

Several IUESIPS enhancements such as those listed above presuppose that certain parameters like the temperature, the exact observing start and end times and the target coordinates are available to the S/W in the header of the image to be processed. This is not always the case and parameters can be wrong or even missing. Early IUE images for instance did not have the THDA written into their science header by the R/T software. Nor was it entered manually in the comment field. The source RA and Dec can be wrong for many reasons. If a parameter is missing from the header, the S/W uses a default value but the result is not as good as it could theoretically be. Often, the correct or missing information exists in the hand-written log scripts which are filled-in by the resident astronomer during real time operations. Rather than overwrite the existing header information -always a dangerous practice- it was decided to add to it an appendage that will contain the correct or missing parameters. It will include among other things the exposure time, THDA, UVC voltage, the time at which the exposure was actually read and several other items which will allow an optimal reprocessing. The header appendage is a high priority IUESIPS enhancement which will be

implemented soon. Still, it might take some time before old IUE images from the archive have the correct or missing information fed into their header.

For an accurate wavelength calibration of the high resolution spectra, it is necessary to compensate for the orbital motion of the IUE spacecraft. Currently, this is done by computing the S/C motion at the time of the observations from orbital elements which date back to 1979. This introduces unnecessary errors, the orbit having changed substantially since those early days. These errors could be removed by using time-dependent orbital elements instead of values from 1979.

Other possible areas for improvement include the use of a time dependent ripple correction to compensate for the echelle blaze at high dispersion. A secular effect is probable but has not been studied at all yet.

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VILSPA's Exposure Classification Code for GSFC Images

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Introduction

This paper describes the implementation of the exposure classification code CEB of VILSPA for IUE images taken at the Goddard Space Flight Center (GSFC).

At VILSPA the quality of an IUE image (ie. exposure) is classified by a three-digit exposure classification code CEB. The first digit indicates the Continuum level, the second classifies the Emission and the third digit measures the Background level (hence CEB).

At GSFC the levels for continuum, emission and background are directly specified in units of Data Numbers (DN - ie. 0 to 255) in the comment field.

The primary reason for translating the GSFC exposure levels to the CEBs of VILSPA was their implementation in the Uniform Low Dispersion Archive (Barylak et al., 1987; Wamsteker et al. 1988).

Methods

At VILSPA the continuum and emission level digits indicate the following Data Numbers (DN) above background:

0: not applicable	5: greater than 150 DN
1: no spectrum	6: few pixels saturated
2: less than 20 DN	7: less than 50% saturated
3: less than 100 DN	8: mostly saturated
4: 100 to 150 DN	9: completely saturated

The emission line level is classified according to the DN value of the strongest emission line found. The continuum is normally measured in the region of the highest DN values of the spectrum. The background is usually measured adjacent to the maximum continuum level. Thus, it may not be, strictly speaking, the background appropriate to the emission line region. Note that this "corresponding background" is entered

in the hand-written log but is not reflected in the CEB code. The CEB digit for the background always indicates the DN level in the upper right corner of an IUE image, ie.:

0: less than 20 DN	5: 61 to 70 DN
1: 21 to 30 DN	6: 71 to 80 DN
2: 31 to 40 DN	7: 81 to 90 DN
3: 41 to 50 DN	8: 91 to 100 DN
4: 51 to 60 DN	9: greater than 100 DN

At GSFC the levels for continuum, emission and background are directly specified in units of DNs in the 20 character comment field. For GSFC images taken after April 21, 1979 the following information is given:

E= gross exposure level in DN for strongest emission lines in the spectrum
C= gross DN value for the most highly exposed region of the continuum
B= average DN value for the background
N= peak DN value for the microphonic noise

The procedures for measuring the continuum, emission and background levels differ from those at VILSPA. In particular, if there is no clear continuum, the background may be an average value of an area with the highest DN values. The measured DN values may be given as a range (e.g. C=215-220) or indicate the number of times the level is overexposed (e.g. B=1.5X). Also, there are some values which are greater than 255. These have no physical meaning but are just an approximation to the amount of overexposure.

Translation

A simple FORTRAN subroutine has been written which tries to convert the exposure levels as found in the comments of GSFC records into the exposure classification code CEB of VILSPA. This translation is not intended to be the ultimate indication of the quality of an IUE exposure but should rather provide some hints and approximations on all three exposure levels ie. continuum, emission (if applicable) and background.

The following restrictions are present in the code:

a, the program works only on the comment field implying among other things that old images (ie. taken before April 21, 1979) will be processed in the same way.

b, as the continuum and emission levels depend upon the DN values of the background, images not holding information on the background level or indicating an overexposed background are disregarded ie. the CEB code is being filled with blanks.

c, the program tries to decode first a three, and if it fails then a two digit integer number for any exposure level. Hence for range specifications like C=248-258 only the first value will be considered. Similarly or worse for overexposures greater than 9 e.g. E=12X the program believes that the corresponding DN value is 12 rather than 12 times overexposed.

d, if the decoding of both three and two digits numbers fails (as in the case of B=1.4-2X) then the level information is searched for the character 'X' (for X times overexposed) or 'N' (for NONE or N/A) or 'W' (for WEAK). In the case of X times overexposed, the continuum or emission level digit could have values ranging from 6 to 9 (see above table). In these cases an 'X' will be placed in the corresponding CEB digit to indicate overexposure in GSFC records . In the case of N, the CEB digit will be filled with a '0' and in the case of W, the CEB digit will directly be set to '1'.

e, the program will ignore the peak value for microphonic noise.

f, to enable the detection of typos or errors a question mark will be placed in the CEB digit if the level information contains strange characters.

Acknowledgment

It is a pleasure to thank the colleagues at GSFC for their comments on earlier versions of the program which have lead to important improvements. Special thanks are due to Marion Schmitz.

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POSITION OF MULTIPLE SPECTRA IN THE LINE-BY-LINE SPECTRUM

J. Clavel

For astronomical sources which vary on a time scale shorter than a camera READPREP time (about 20 minutes), the way to obtain time resolved low resolution IUE spectra is to expose successively the object at different locations inside the large aperture of the spectrographs. The phase resolved spectra appear as individual strips on the line-by-line file of the Guest Observer tape. However, relating the order number on that file with the sequential exposure number, while not difficult, can be cumbersome, especially when working with data from the archives. Below is a simple recipe which permits one to unambiguously identify individual spectra in multiply exposed line-by-line images.

Some background information is necessary first. The centering of the target in the spectrograph aperture is done by offsetting the S/C pointing by a fixed amount with respect to a fixed position, the so-called Reference Point (RP). Its (X,Y) coordinates are (-16,-208) in the FES frame. Multiple exposures are performed by using several slightly offset reference points instead of, or in addition to, the nominal RP. The FES coordinates of the offset RPs are written in the comment line number 4 of the image header, in the order in which they have been used. They are also recorded in the hand-written log. Other relevant information is as follows:

. FES scale: 0.2680 arcsec per pixel along the X axis
0.2617 arcsec per pixel along the Y axis

. The large aperture axis makes an angle of 169 degrees with the +X axis of the FES

. The dispersion line makes an angle of 82 degrees with the axis of the large aperture.

.The orientation of the line-by-line image is such that an increasing FES-X coordinate means an increasing order number.

. The line-by-line spectrum contains 110 orders, centered on order 55.5, and each order corresponds to 1.078 arcsec on the sky.

Taking all the above into account, the (X,Y) coordinates of the offset reference point are related to the order number N in the line-by-line spectrum by the following simple formula

$$N = 55.5 + Sgn(X+16)*ABS[-0.2482*(X+16)+0.0127*(Y+208)]$$

where Sgn(x) and ABS(x) are respectively the function sign and absolute value of the variable x.

Example:
Two spectra have been obtained with reference points RP1 (5,-213) and RP2 (37,-203). Spectrum #1 will be centered on order number N1=60.8, i.e. at the top of the line-by-line image, while spectrum#2 lies at N2=50.2

VILSPA Database news

Michael Barylak, VILSPA

In brief there is news on the following items:

* VILSPA has become a SPAN node
* the PIUE file has been updated
* New VILSPA database users manuals are available
* IUE merged log in FITS table format
* Database search by homogeneous object identifiers or accurate positions now possible

After more then a year's delay the ESA IUE observatory at VILSPA has finally become a SPAN (Space Physics Analysis Net) node. The node name is, and this may come as a big surprise, "VILSPA" (number 28843). The site manager of the VILSPA node is Francisco Marcelo (see Personnel Changes). Responsibility for the SPAN node lies with me. The VILSPA SPAN node will serve as a router to IAC (Instituto de Astrofisica de Canarias). So pass this message on to Optical astronomers too!

Through the VILSPA SPAN node one can naturally access the IUE database (ie. the merged (GSFC and VILSPA) log of IUE observations) either by "SET HOST VILSPA" or "SET HOST 28843". or "SET HOST 28845". In all cases use

Username: **VILSPA** Password: **DB**

Also, a general account to handle e-mail messages has been set-up. The address is **VILSPA::IUEOBS.** The RAs on shift will monitor this account and pass on the messages to the appropriate people.

Recently, the file of **IUE publications** (file PIUE) has been brought up-to-date with the much appreciated help of our students (Almudena, Ana Ines, Maria and Pedro). It now holds 13862 records and is complete up to the end of 1987.

A new database user manual is ready and will be shipped out at the end of October 1988. All registered users will (should) get one automatically. All other persons interested please contact me as soon as possible.

There have been many requests for the merged log of IUE observations on magnetic tape. These requests have not been satisfied owing to the new installation of the VILSPA database. Now the merged log is again available on magnetic tapes in (and only in) table FITS format (Harten et al., Astron. Astrophys. Suppl. Ser. 73, pg. 365-372, June 1988). People interested in receiving the merged log tape should contact Carmela Sastre at VILSPA.

By the time you receive the new user manual you will also be able to interrogate the VILSPA database by homogeneous object identifiers or accurate 1950.0 coordinates as provided by the Centre de Donnees Astronomiques de Strasbourg (CDS, Strasbourg). Work on these identifiers is far from being complete and hence any comments and suggestions are welcome.

HELIOCENTRIC TIME CORRECTION ADDED TO SCALE-FACTOR RECORD OF IUE DATA FILES

JAMES GASS

(Reprinted from NASA IUE Newsletter, 31, 81)

Investigators who are interested in studying periodic variations using IUE data may find two additions to the scale-factor record (record sequence number zero) useful when comparing successive observations. The first of these additions is the Julian Date corresponding to the midpoint of observation. The second is a heliocentric light-travel time correction.

The Julian Date has been included for all IUE images which have been processed at VILSPA on or after 6 June 1986. This quantity is stored in record zero as the 38th and 39th halfword entries. Entry 38 contains the integral part of the J.D. less 2440000. Entry 39 contains the fractional part, scaled by multiplying it by 10^4 and rounding. Note that, with this scaling, the time resolution of the J.D. is less than 9 seconds. The Julian Date of observation was also added to the image processing history portion of the image header label starting on the date mentioned above.

The heliocentric time correction is stored in halfword 40 of record zero. This entry represents the correction as a fraction of a day times 10^4. Thus, entry 40, when added to entry 39, corrects the midpoint of observation to its heliocentric equivalent. That is,

$$\text{JD (heliocentric)} = \text{Entry(38)} + [\text{Entry(40)} + \text{Entry(40)}] / 10000 + 2440000 .$$

The subroutine used to compute the heliocentric correction was adapted from a routine in the Basic Astronomical Subroutine Package of the former Laboratory for Optical Astronomy here at Goddard. Any questions or comments concerning the algorithm or output of this subroutine may be addressed to me at:

Centre IUE Image Processing Center
Code 684.9
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ESTIMATING PHOSPHORESCENCE LEVELS ON IUE SPECTRA

Catherine L. Imhoff

(Reprinted from NASA IUE Newsletter 33, 25)

It is possible to compute how much phosphorescence will affect a given image due to the general phosphorescent background and also due to previous exposures and overexposures. We find that a heavy overexposure can contaminate long IUE exposures for several days.

As many IUE users know, phosphorescence from previous exposures can affect IUE images. This can manifest itself in at least two different ways. First, the camera preparation sequence employs bright tungsten flood lamps, which cause a general phosphorescence all across the camera. This background well-exposed or overexposed spectra produce phosphorescence on the camera in the region of the spectrum. This can make the subtraction of the background from the spectrum difficult, as when a high-dispersion "ghost" affects a low-dispersion spectrum. It can also produce a spurious signal in long exposures when weak spectra are expected; for instance, faint extragalactic spectra may be affected by a previous low-dispersion overexposure. These and other aspects of the phosphorescence have been discussed by Snijders (1983).

It is possible to calculate the effects of prior exposures on a given image. According to Coleman (1977, Camera Users' Guide, page 3-24), the camera phosphorescence behaves as the following:

$$I(t) = k\ E\ t^{-n},$$

where k and n are constants which differ somewhat from camera to camera, and E is the integrated intensity of the exciting exposure. E is assumed for simplicity to have occurred over a short period of time compared to t, which is the interval between the overexposure and the subsequent exposure. For convenience, we will consider intensities in units of DNs and time given in units of seconds.

Camera	k	n
LWP	1.2×10^{-4}	0.72
LWR	2.9×10^{-4}	0.77
SWP	1.8×10^{-4}	0.78

The superposition of the phosphorence from the many camera preps done over the years has produced a more or less constant phosphorence on the cameras of 5 to 10 DN/hour. The actual level depends mostly on the recent history of use of the camera. An XSPREP, performed after a heavily overexposed spectrum to remove the residual image from the camera target, floods the camera with an 8 times overexposure. This is followed with three fast scans, then a standard prep sequence. This process removes the residual image from the camera target, but also raises the phosphorescence all across the camera to roughly the 10 DN/hour level for several hours. If the camera has not been used for either exposures or camera preps for a couple of 8-hour shifts, the phosphorescence is likely to be low, perhaps 5 DN/hour. The rates at various locations on the camera differ, with higher phosphorescence in regions of higher sensitivity and lower phosphorescence in areas of lower sensitivity.

Exposure time estimates for long exposures must take into account this general phosphorescent background. For instance, one might have computed the expected ultraviolet fluxes for a particular object. Using the sensitivity curves given in the IUE Observing Guide (Sonneborn et al. 1987), the optimum SWP exposure time is calculated to be 7.0 hours to produce a signal of 200 DN, or an "intensity" of 28.6 DN/hr. If one includes the pedestal of 25 DN and phosphorescent background of roughly 8 DN/hr, then the best exposure time is smaller.

220 DN = 25 DN + 8 DN/hr x T + 28.6 DN/hr x T

(peak signal) (pedestal) (phosphorescence) (signal)

Solving for T, the best exposure time is computed to be 5.3 hours.

It is possible to estimate the rate of phosphorescence due to a previous overexposure for a particular image using the equation and values given above. For example, I have evaluated the two possible sources of phosphorescence that could have affected a recent Guest Observer's spectrum. This particular image, which was a 14-hour exposure on the SWP in low dispersion, was affected by the phosphorescence of a previous high- dispersion image. There were two suspects: first, a single 100-times overexposure taken about 24 hours before the start of the GO's 14-hour exposure, and second, several optimum spectra taken in rapid succession just prior to the start of the 14-hour exposure. (An optimum spectrum is defined to be one with a peak singal of 220 DN. Thus a spectrum that reaches 250 DN

is 1.14 times overexposed.)

The high-dispersion image which was a 100-times overexposure occurred about 24 hours before the GO's 14-hour exposure. Then E = 220 DN 100 = 22,000 DN. After 24 hours (86400 sec), just prior to the 14-hour exposure,

$$I(t) = 1.8 \times 10^{-4} (22000).(86400)^{-0.78} \text{ , or}$$

$$I(t) = 5.59 \times 10^{-4} \text{ DN/sec.}$$

By the end of the GO's 14-hour exposure, the phosphorescence will have diminished somewhat:

$$I(t) = 1.8 \times 10^{-4} (22000).(136800)^{-0.78} \text{ , or}$$

$$I(t) = 3.90 \times 10^{-4} \text{ DN/sec.}$$

For simplicity, we can use the mean of these two values to calculate the resulting phosphorescence. Then over the 14-hour exposure, 24 DN would have accumulated due to phosphorescence from the previous 100 times overexposure!

The second possible source of phosphorescence was the set of several optimum spectra taken just prior to the 14-hour exposure. For simplicity assume that there were 8 such spectra spaced apart by 1 hour each. Then at the beginning of the 14-hour exposure, the phosphorescence would have been

$$\text{Sum } I(t) = 1.8 \times 10^{-4} (220) * (3600)^{-0.78}$$

$$(1^{-0.78} + 2^{-0.78} + \ldots + 7^{-0.78} + 8^{-0.78}), \text{ or}$$

$$I(t) = 2.20 \times 10^{-4} \text{ DN/sec.}$$

By the end of the 14-hour exposure, the phosphorescence will have dropped off rapidly to

$$I(t) = 5.79 \times 10^{-5} \text{ DN/sec.}$$

So on the average this source of phosphorescence will have contributed only about 5 DN to the 14 hour exposure, much less than the 100-times overexposure 24 hours before.

These calculations indicate that it will be 8 days before the phosphorescence from the 100-times overexposure will be down to a rate of 5 DN over 14 hours. However Snijders (1983) notes that over long time scales the phosphorescence is less than predicted by the equation.

Still, such a heavy overexposure is likely to affect long exposures taken over the next several days. Thus it is wise to avoid overexposing the cameras when possible to minimize the effects on other observers.

REFERENCES:

Sonneborn, G., Oliversen, N.A., Imhoff, C.L., Pitts, R.E., and Holm, A.V., 1987, NASA IUE Newsletter No. 32, page 1.

Snijders, M.A.J., 1983, ESA IUE Newsletter No. 16, page 10.

(See ESA IUE Newsletter 28, 33 for current over-exposure policy, Ed).

RESPONSE TIME OF THE LWR CAMERA

AT THE UVC SETTING OF -4.5 KV

D. Michael Crenshaw

(Reprinted from NASA IUE Newletter 31, 37)

The response time of the LWR camera at the UVC setting of -4.5 kv is determined to be 128 msec (with an expected error of +/- 15 msec). This value is similar to those obtained previously for the three operational cameras at the UVC setting of -5 kv: 126 msec for the LWP camera and 120 msec for the LWR and SWP cameras.

Introduction

The actual exposure time for an IUE spectrum is, in general, not exactly equal to the exposure time requested by an observer on the script. One reason for this difference is that the exposure time performed by the on-board computer is an integer multiple of 0.4096 seconds (one "OBC tic"). The requested exposure time is always rounded down to an integral number of OBC tics.

Another reason for the difference in requested and actual exposure times arises from the fact that a significant amount of time is required to bring the UVC and SEC voltages up for the exposure and to bring the voltages back down again. Thus, there is a net response time for each camera. The actual exposure time is just the requested exposure time rounded down to the next lowest multiple of 0.4096 seconds, minus the response time. For example, a requested exposure time of 1.0 sec is rounded down to 0.819 sec (2 OBC tics) and, assuming a response time of 0.120 sec, results in an actual exposure time of approximately 0.699.

The LWR camera at the UVC setting of -5kv is no longer available to guest observers, due to the presence of a flare in the UVC at this setting. Since the LWR camera is now available at a UVC setting of -4.5 kv (Imhoff 1985) it was decided that the response time should be redetermined for the LWR camera in this configuration. The procedure used is essentially identical to that used by Imhoff (1984) to determine the response time for the LWP camera. A single exposure of duration N OBC tics is taken and compared to a multiple exposure obtained with M exposures of duration one OBC tic, where N and M are chosen to

produce spectra of about the same DN level. The ratio of the flux numbers at a given wavelength for the two spectra is then:

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

where FN(1) is the flux for the single exposure, FN(M) is the flux for the multiple exposure, and Tr is the response time. The equation can be solved for Tr:

$$Tr = 0.4096 * \frac{M - (R * N)}{M - R} .$$

Results

Three low dispersion LWR spectra of HD 93521 were obtained on 1 November 1985 during a maintenance shift to determine the response time of the LWR camera at the UVC setting of -4.5 kv. LWR 17812 and LWR 17814 were each obtained with a single 12 tic exposure (N = 12), and LWR 17813 was obtained with 16 separate exposures of duration one tic each (M = 16). The number of exposures for LWR 17813 was selected so that the flux levels would be similar to those for the single exposures, in order to avoid errors that arise from nonlinearities in the Intensity Transfer Function (Holm et al. 1982).

Ratios were formed by dividing one spectrum by another, and average values were obtained over 100 A intervals. Only those portions of the spectra with FN > 10000 were used. As can be seen in Table 1, the flux levels of the single exposure spectra are in good agreement; the average ratio of the flux numbers (LWR 17812/LWR 17814) is 0.986. Since the percentage difference is only 1.4%, the two spectra were averaged together to produce a single reference spectrum.

The ratio of the multiple exposure spectrum to the reference spectrum for each 100 A bin is also given in Table 1. The average ratio "R" is 0.940 +/- 0.020. Substitution of this value into the equation for the response time "Tr" gives a value of 128 msec (+/-6msec). The uncertainty should be considered a lower limit, as it is based on the standard deviation of ratios for different bins from one multiple exposure spectrum.

The major source of uncertainty in the response time

is likely the interaction of various pieces of timing hardware on the spacecraft (Schiffer 1980). Therefore, a more realistic value for the uncertainty is obtained by comparison of the results from two or more multiple exposure spectra. This is done by Imhoff (1984), who determines the response time of the LWP camera at the UVC setting of -5 kv to be 126 msec (+/- 16 msec), and Schiffer (1980), who determines the response time of the LWR and SWP cameras at the UVC setting of -5 kv to be 120 msec (+/- 15 msec). The value of 128 msec obtained for the LWR camera at -4.5 kv agrees well with those determined for the cameras at -5 kv, and the uncertainty is expected to be about the same (approximately 15 msec).

References:

Holm, A., Bohlin, R.S., Cassatella, A., Ponz, D.P., and Schiffer, F.H., III, 1982, Astron. Astrophys., 112, 341.

Imhoff, C.L., 1984, NASA IUE Newsletter, No. 24, 24.

Imhoff, C.L., 1985, NASA IUE Newsletter, No. 28, 7.

Schiffer, F.H., III, 1980, NASA IUE Newsletter, No. 11, 33.

TABLE 1
Flux Ratios

Wavelength (A)	Ratio of FN (LWR 17812/LWR 17814)	Ratio of FN (LWR 17813/Reference)
2000	0.983	0.959
2100	0.993	0.930
2200	0.996	0.980
2300	1.008	0.959
2400	0.971	0.925
2500	0.975	0.930
2600	0.986	0.943
2700	0.990	0.941
2800	1.001	0.934
2900	0.970	0.927
3000	0.977	0.908
Mean	0.986	0.940
St. Dev.	0.013	0.020

CORRECTING IUE FLUXES FOR TEMPERATURE EFFECTS

Catherine L. Imhoff

(Reprinted from NASA IUE Newsletter 31, 11)

The IUE cameras are, to a small degree, sensitive to temperature. A small correction may be made to the IUE fluxes to compensate for this effect. This correction is required only for analysis requiring the highest accuracy.

The sensitivity of IUE's cameras is, to a small degree, a function of temperature. This has been known for some time from analysis of a large number of calibration star spectra acquired for sensitivity monitoring. The most recent determination is given by Sonneborn and Garhart (1986).

The sense of the effect is that as the camera becomes warmer, it becomes less sensitive. The resulting detected signal (in DNs) is smaller, so the derived fluxes must then be corrected upward. In general,

$$Fcorr(\lambda) = \frac{F(\lambda)}{1 + c * (THDA - Tref)}$$

where $F(\lambda)$ is the original flux at wavelength λ, THDA is the temperature of the camera (measured at the head amplifier), Tref is the reference temperature, and c is the coefficient of temperature sensitivity. The THDA for the camera is available for nearly all observations from the original script entry. It is also used in the current IUESIPS image processing for the geometric/wavelength calibration and is listed in the processing portion of the label.

In principle, Tref could be chosen arbitrarily, but to facilitate comparisons among various analyses it would be preferable to adopt a standard set of reference temperatures. A logical choice would be the average temperature of the camera for the original calibration observations. These are listed in Table 1. The coefficients have been determined as part of the quick-look sensitivity monitoring analyses. The most recent values, from Sonneborn and Garhart, (1986) in Table 1.

TABLE 1

Reference Temperatures and Temperature Coefficients

Camera	Tref	C
SWP	8 °C	- .0048 +/- .0004
LWR	12 °C	- .0070 +/- .0006
LWP	8 °C	- .0025 +/- .0004

One can quickly see that this is not a large effect. A worst case example would be the LWR, which has the largest temperature sensitivity. The range of THDA recorded for the quick-look sensitivity monitoring spectra is from about 9 °C to 18 °C. For the observation at 18 °C,

$$\frac{Fcorr}{F} = \frac{1}{1 - .0070\ (18 - 12)}$$

which is equal to 1.042, thus at worst a 4% effect. Most observations are obtained when the THDA is within a few degrees of the reference temperature, so the effects are usually smaller. However, for analyses of several spectra in which the highest accuracy is required, the temperature correction should be included. Note that the repeatibility of the fluxes for a single spectrum is typically about 3% (Sonneborn and Garhart, 1986).

The temperature sensitivity has been measured using low dispersion spectra and is assumed to be independent of wavelength and location on the camera faceplate. If this is correct, then the temperature correction can be applied to high dispersion spectra as well. Because of the small size of the effect, it would be difficult to confirm this with any certainty using high dispersion spectra.

Reference:

Sonneborn, G., and Garhart, M.P., 1986, NASA IUE Newletter, No. 31, Page 29

Approved European IUE Proposals 11TH YEAR: 1988-1989

High resolution observations of early-type halo stars PHL 1580	Keenan	Belfast	KA 001
	Brown	Belfast	KA 001
	Conlon	Belfast	KA 001
	Dufton	Belfast	KA 001
	Bohlin	USA	KA 001
Study of the variability of the CIV resonance lines in the spectrum of HR 6000	Tjin	Amsterdam	KA 002
	Santvoort	VILSPA	KA 002
	The	Amsterdam	KA 002
Ultraviolet Observations of 3C48	O'Brien	UCL London	KQ 003
	Wilson	UCL London	KQ 003
	Gondhalekar	RAL London	KQ 003
Evolution problems and chromospheric activity in dwarf cepheids	Pasinetti	Milano	KC 004
	Antonello	Milano	KC 004
	Pastori	Milano	KC 004
	Castelli	Trieste	KC 004
	Schmidt	Nebraska	KC 004
	Teays	Nebraska	KC 004
Properties of high velocity gas components in the nearby interstellar medium	Bates	Belfast	KM 005
	Catney	Belfast	KM 005
	Keenan	Belfast	KM 005
Evidence for rotationally modulated variability in O star winds	Prinja	UCL London	KA 006
	Howarth	UCL London	KA 006
	Wilson	UCL London	KA 006
HD 50896 revisited - origin of its wind variability	Willis	UCL London	KA 007
	Smith	UCL London	KA 007
	St. Louis	UCL London	KA 007
	Garmany	Colorado	KA 007
	Conti	Colorado	KA 007
The UV eclipse spectrum of CV Serpentis (WC8+09III-V)	Willis	UCL London	KA 008
	Smith	UCL London	KA 008
	St. Louis	UCL London	KA 008
	Stickland	RAL London	KA 008
Spectroscopic study of intermediate redshift quasars	Boisson	Meudon	KQ 009
	Collin	IAP	KQ 009
	Joly	Meudon	KQ 009
	Stasinska	Meudon	KQ 009
Survey of So2 in the upper atmosphere of Venus	Bertaux	Paris	KS 010
	Parisot	Besancon	KS 010
The saturation level of transition regions in A-F stars	Vilhu	Helsinki	KC 013
	Walter	Colorado	KC 013

High resolution Mg II observations of VW Cep	Vilhu	Helsinki	KC 014
	Huovelin	Helsinki	KC 014
	Barden	Kitt Peak	KC 014
	Caillault	Colorado	KC 014
Simultaneous IUE-GINGA observations of Sigma 2 CrB	Vilhu	Helsinki	KC 015
	Stern	Palo Alto	KC 015
	Rodono	Catania	KC 015
	Uchida	Japan	KC 015
	Walter	Colorado	KC 015
	Brown	Colorado	KC 015
	Schrijver	Colorado	KC 015
Unravelling the unique remnant of nova GK Per. II: the NE quadrant	Bode	Lancashire	KM 017
	Duerbeck	Muenster	KM 017
	Evans	Keele	KM 017
	Albinson	Keele	KM 017
Coordinated time-resolved UV and optical spectroscopy of Zeta Pup Zeta Oph	Prinja	UCL London	KA 018
	Bolton	Toronto	KA 018
	Fulletton	Toronto	KA 018
UV-spectrophotometry of very hot subdwarfs	Heber	Kiel	KA 019
	Werner	Kiel	KA 019
	de Boer	Bonn	KA 019
	Seggewiss	Bonn	KA 019
	Richtler	Bonn	KA 019
A comparison of the sources of UV flux in normal, active and star-forming early-type galaxies	Bertola	Padova	KE 020
	Buson	Asiago	KE 020
	Burstein	Arizona	KE 020
The symbiotic phenomenon investigated on HBV 475	Nussbaumer	Zurich	KI 025
	Vogel	Zurich	KI 025
Basic parameters and dust properties of low mass post-AGB stars	Lamers	Utrecht	KA 032
	Waters	Utrecht	KA 032
	v. d. Veen	Leiden	KA 032
	Waelkens	Leuven	KA 032
	Trams	Utrecht	KA 032
Star-forming regions in the nucleus of NGC 5253	Kunth	IAP	KE 034
	Terlevich	RGO	KE 034
	Mas Hesse	Madrid	KE 034
	Gonzalez	VILSPA	KE 034
An ultraviolet study of the Type-C RR Lyrae star DH Peg	Skillen	Leicester	KA 036
	Fernley	UCL London	KA 036
	Jameson	Leicester	KA 036
	Longmore	Edinburgh	KA 036
	Lynas-Gray	UCL London	KA 036
Coronal mass ejections from a young KO dwarf star	Collier C.	Sussex	KC 037
	Pettersen	Oslo	KC 037
	Foing	Paris	KC 037
	Robinson	Australia	KC 037
	Rucinski	Toronto	KC 037
	Soderblom	Baltimore	KC 037

Stellar winds in the Magellanic Clouds	Kudritzki	Muenchen	KA 038
	Husfeld	Muenchen	KA 038
	Garmany	Colorado	KA 038
	Conti	Colorado	KA 038
Two new, unique Herbig-Haro objects - HH80/81: high excitation interstellar shocks	Reipurth	Muenchen	KM 039
	Bruegel	USA	KM 039
			KM 039
A study of the Be-shell - Be transition of Pleione	Doazan	Paris	KA 041
	Barylak	VILSPA	KA 041
	Rusconi	Trieste	KA 041
	Sedmak	Trieste	KA 041
The long term variable CP2 star HR 465	Fuhrmann	Gottingen	KA 044
	Kroll	Gottingen	KA 044
	Schneider	Gottingen	KA 044
	Voigt	Gottingen	KA 044
The symbiotic star HM Sge	Vogel	Zurich	KI 045
	Nussbaumer	Zurich	KI 045
UV observations of two new optically selected X-ray hard cataclysmic variables	McMahon	Cambridge	KI 047
	Ward	Cambridge	KI 047
	Ruiz	Chile	KI 047
Probing the narrow line region and jet-like condensations in NGC 4151	Grewing	Tuebingen	KE 048
	Bruhweiler	GSFC	KE 048
	Smith	GSFC	KE 048
The source of diffuse blue light and Lyman alpha emission in Central Cluster Galaxies	Fabian	Cambridge	KE 049
	Johnstone	Cambridge	KE 049
	Crawford	Cambridge	KE 049
The composition of Supernova ejecta in Puppis A	Fabian	Cambridge	KM 050
	Kirshner	CfA	KM 050
	Winkler	USA	KM 050
The intrinsic hydrogen Lyman alpha line profile of a high radial velocity G giant	Jordan	Oxford	KC 051
	Judge	Oxford	KC 051
	Montesinos	Oxford	KC 051
	Bookbinder	USA	KC 051
Intrinsic absorption lines in 4 Seyfert 1 Galaxies and Quasars	Ulrich	Muenchen	KQ 053
			KQ 053
Observations of the Seyfert 1 nucleus of NGC 4151	Ulrich	Muenchen	KQ 054
	Altamore	Rome	KQ 054
	Perola	Rome	KQ 054
	Bromage	RAL	KQ 054
	Clavel	VILSPA	KQ 054
	Boksenberg	RGO	KQ 054
	Snijders	RGO	KQ 054
	Penston	RGO	KQ 054
	Elvius	Stockholm	KQ 054

Velocity fields in the chromospheres of active late-type dwarfs	Beckman	Canarias	KC 055
	Foing	Paris	KC 055
	Crivellari	Trieste	KC 055
	Vladilo	Trieste	KC 055
Search for circumstellar envelopes around late-type binary systems with LISM-free MgII emission lines	Crivellari	Trieste	KC 056
	Vladilo	Trieste	KC 056
	Glebocki	Gdansk	KC 056
	Sikorski	Gdansk	KC 056
Stellar winds in the hot stars of nearby galaxies	Bianchi	Torino	KA 059
	Hutchings	Canada	KA 059
	Massey	Kitt Peak	KA 059
UV observations of X-ray binaries counterparts	Bianchi	Torino	KI 060
	Pakull	Besancon	KI 060
	Stasinka	Meudon	KI 060
Temperatures and bolometric luminosities of PN nuclei	Bianchi	Torino	KA 063
	Grewing	Tuebingen	KA 063
	Cerrato	Tuebingen	KA 063
	Baessgen	Tuebingen	KA 063
Opportune new comets	Wallis	Cardiff	KS 064
	Wickramasinghe	Cardiff	KS 064
	Hughes	Sheffield	KS 064
	Zarnecki	Kent	KS 064
	Burton	RAL	KS 064
	Williams	London	KS 064
Chemical abundances from main sequence B stars in the Magellanic Clouds	Baschek	Heidelberg	KA 066
	Scholz	Heidelberg	KA 066
	Reitermann	Heidelberg	KA 066
	Stahl	Heidelberg	KA 066
	Wolf	Heidelberg	KA 066
Nova Muscae 1983: late stages in the outburst	Krautter	Heidelberg	KI 067
	Ogelman	Garching	KI 067
	Williams	Chile	KI 067
Multifrequency observations of the outburst phase of the LMC-LBV R 127	Stahl	Heidelberg	KA 068
	Wolf	Heidelberg	KA 068
	Cassatella	VILSPA	KA 068
	Wamsteker	VILSPA	KA 068
	Viotti	Frascati	KA 068
The nature of the luminous blue variables	Wolf	Heidelberg	KA 069
	Stahl	Heidelberg	KA 069
	Zickgraf	Heidelberg	KA 069
	Garmany	USA	KA 069
Distances to halo clouds	de Boer	Bonn	KM 070
Spectroscopy of narrow line galaxies	Durret	IAP	KQ 071
	Boisson	IAP	KQ 071

UV and optical observations of liners: spatially resolved spectroscopy of the nuclear and extended galactic emission	Branduardi	Surrey	KQ 073
	Mason	Surrey	KQ 073
	Mittaz	Surrey	KQ 073
			KQ 073
	Reichert	GSFC	KQ 073
Chromospheres/transition regions of dM(e) stars	Byrne	Armagh	KC 075
	Doyle	Armagh	KC 075
UV observations of the symbiotic star CH Cyg and of its jet	Hack	Trieste	KI 078
	Selvelli	Trieste	KI 078
	Mikolajewska	Torun	KI 078
Cyclic activity in pre-main sequence Herbig Ae stars	Catala	Meudon	KA 080
	Praderie	Meudon	KA 080
	Tjin	Amsterdam	KA 080
	The	Amsterdam	KA 080
	Talavera	VILSPA	KA 080
	Simon	GSFC	KA 080
The circumstellar disk around beta Pictoris	Lagrange	IAP	KM 081
	Vidal-Madjar	IAP	KM 081
UV observations of possible "Beta Pictoris" stars	Lagrange	IAP	KM 082
	Vidal-Madjar	IAP	KM 082
	Ferlet	IAP	KM 082
Colliding winds and dust formation in the variable WC stars HD 192641 and HD 193793	v.d. Hucht	Utrecht	KA 083
	Williams	Edinburgh	KA 083
	Wamsteker	VILSPA	KA 083
	Pollock	ESTEC	KA 083
The origin of QSO absorption lines	Wamsteker	VILSPA	KM 084
	Blades	Baltimore	KM 084
	York	USA	KM 084
	Bohlin	USA	KM 084
	Callagher	USA	KM 084
Multi wavelength study of Seyfert 1 galaxies	Wamsteker	VILSPA	KQ 085
	Rodriguez	VILSPA	KQ 085
Metals in helium atmosphere white dwarfs: test of the diffusion theory	Vauclair	Toulouse	KA 086
			KA 086
	Sion	USA	KA 086
A unique planetary nebula ejection from a hot DA white dwarf	Vauclair	Toulouse	KA 087
			KA 087
	Liebert	Arizona	KA 087
A high dispersion study of chromospheric lines in G/K dwarfs	Jordan	Oxford	KC 088
	Judge	Oxford	KC 088
High dispersion of RU Lupi	Jordan	Oxford	KC 089
	Brown	Colorado	KC 089
Variability and inhomogeneity of T Tauri stars	Jordan	Oxford	KC 090
	Judge	Oxford	KC 090
	Brown	Colorado	KC 090

Chromospheres of Red Giants in Globular Clusters	Jordan	Oxford	KC 091
	Judge	Oxford	KC 091
	Harper	Oxford	KC 091
	Dupree	Harvard	KC 091
The UV albedo of Pluto	Brosch	Tel Aviv	KS 093
	Skinner	USA	KS 093
The UV albedo of Triton	Brosch	Tel Aviv	KS 094
	Skinner	USA	KS 094
Post super-outburst monitoring of the dwarf nova VW Hydri	Hassall	Oxford	KI 100
	Pringle	Cambridge	KI 100
	la Dous	Cambridge	KI 100
The line profiles of high inclination and high mass transfer cataclysmic variables	Hassall	Oxford	KI 101
	Naylor	VILSPA	KI 101
	Charles	RGO	KI 101
Multi-wavelength monitoring of the Dwarf Nova Su Uma	Naylor	VILSPA	KI 102
	Hassall	Oxford	KI 102
	Harlaftis	Oxford	KI 102
	Charles	RGO	KI 102
	Pringle	Cambridge	KI 102
	Sonneborn	GSFC	KI 102
Low resolution observations of a B2 hypergiant	de Jager	Utrecht	KA 105
	Nieuwenhuyzen	Utrecht	KA 105
	Carpey	Utrecht	KA 105
Outflow phenomena associated with Low Mass Protostars	Cameron	UCL London	KM 106
	Glencross	UCL London	KM 106
	Lightfoot	UCL London	KM 106
	Liseau	Stockholm	KM 106
Hot stars of the Large Magellanic Cloud surrounded by ionized bubbles	Laval	Marseille	KA 107
	Gry	Marseille	KA 107
	Boulesteix	Marseille	KA 107
	Marcelin	Marseille	KA 107
Mutual absorptions in double nucleus active galaxies	Meurs	Muenchen	KE 108
			KE 108
The symbiotic star V 1016 Cyg	Nussbaumer	Zurich	KI 110
	Schmid	Zurich	KI 110
Coordinated UV and X-ray observations of W UMA systems	Barstow	Leicester	KC 111
	Pye	Leicester	KC 111
	Bromage	RAL	KC 111
	Holberg	USA	KC 111
Coordinated UV and X-ray observations of Beta Lyrae	Barstow	Leicester	KI 112
	Pye	Leicester	KI 112
	Bromage	RAL	KI 112
	Polidan	USA	KI 112
The photospheric composition of the central star of the Planetary Nebula K1-16	Barstow	Leicester	KA 113
	Willingale	Leicester	KA 113
			KA 113
	Holberg	USA	KA 113

Stellar masses	Stickland	RAL	KA 114
	Lloyd	VILSPA	KA 114
	Pike	RGO	KA 114
Abundances anomaly in accreting magnetic white dwarfs?	Bonnet-B.	Saclay	KI 115
	Mouchet	Meudon	KI 115
Lyman alpha emission in HII galaxies	Diaz B.	Madrid	KE 116
	Terlevich R	RGO	KE 116
	Terlevich E	Sussex	KE 116
The long term variability of the Lyman alpha emission from Jupiter, Saturn, and Uranus	Fricke, KH	Bonn	KS 117
	von Zahn	Bonn	KS 117
			KS 117
Multifrequency observations of the QPO source Cyg X-2	Verbunt	Muenchen	KI 119
	v. d. Klis	ESTEC	KI 119
UV variability of the quasar 3C 273	Courvoisier	Muenchen	KQ 120
	Ulrich	Muenchen	KQ 120
	Wamsteker	VILSPA	KQ 120
Search for allowed neon emission lines in carbon-sequence Wolf-Rayet stars	Seggewiss	Daun	KA 122
	Moffat	Montreal	KA 122
			KA 122
Variable blue compact galaxy Tololo 1924-416	Gondhalekar	RAL	KE 124
			KE 124
Plasma sources, transport and heating in the IO Torus	Festou	Besancon	KS 126
	Bertaux	Verrieres	KS 126
	Moos	USA	KS 126
Quest of the nature of the companion to the S star HDE 332077	Mayor	Geneve	KC 129
	Jorissen	Bruxelles	KC 129
The structure of cataclysmic variable winds	Verbunt	Muenchen	KI 130
	Drew	Oxford	KI 130
	Woods	Oxford	KI 130
An ultraviolet study of Be+K binary KX And	Stefl	Ondrejov	KI 132
	Koubsky	Ondrejov	KI 132
	Polidan	Arizona	KI 132
Spectral imaging of EI Eridani	Rodono	Catania	KC 136
	Neff	Colorado	KC 136
	Linsky	Colorado	KC 136
	Walter	Colorado	KC 136
The stellar content of the populous clusters of the Magellanic Clouds	Cassatella	VILSPA	KE 138
	Geyer		KE 138
	Barbero	Madrid	KE 138
	Brocato		KE 138
The P Cygni star AG Car: its rapid evolution towards O stars	Barylak	VILSPA	KA 140
	Cassatella	VILSPA	KA 140
	Viotti	Frascati	KA 140

UV diagnostics for the starbursts in the interacting galaxy ESO 296- IG 11	Colina	Madrid	KE 142
	Wamsteker	VILSPA	KE 142
	Danks	Greenbelt	KE 142
The recurrent Nova RS Oph: nature of the accreting object	Cassatella	VILSPA	KI 143
	Gonzalez R.	VILSPA	KI 143
UV monitoring of the symbiotic star Z Andromedae	Cassatella	VILSPA	KI 145
	Fernandez	Madrid	KI 145
	Viotti	Frascati	KI 145
	Taylor	Toronto	KI 145
The UV decline of Novae toward quiescence	Selvelli	Trieste	KI 146
	Bianchini		KI 146
	Friedjung	Paris	KI 146
	Cassatella	VILSPA	KI 146
International AGN watch: the size and structure of the broad-emission-line region in NGC 5548	Alloin	Meudon	KQ 147
	Clavel	VILSPA	KQ 147
	Netzer	Tel-Aviv	KQ 147
	+89 Collaborators		KQ 147
Observation of faint periodic comets	Festou	Besancon	KS 148
Red stragglers: a solution to the blue straggler enigma	Morales	Madrid	KC 150
	Sabau	Madrid	KC 150
	Talavera	VILSPA	KC 150
	Freire	Paris	KC 150
	Gerbaldi	Paris	KC 150
Deep SWP exposures of dM stars	Byrne	Armagh	KC 152
	Doyle	Armagh	KC 152
Chromospheres of red supergiant maser sources	Eriksson	Uppsala	KC 153
			KC 153
	Stencel	USA	KC 153
UV observations of He 2-113, CPD-56 8032 and A 58	Rao	Bangalore	KM 154
	Giridhar	Bangalore	KM 154
	Nandy	Edinburgh	KM 154
Observations of the interacting binary CX Draconis	Wonnacott	UCL London	KI 155
	Howarth	UCL London	KI 155
IUE Observations of proto-planetary nebulae	Pottasch	Groningen	KA 157
	Parthasarathy	Bangalore	KA 157
Spectrophotometry of HZ Herculis: long term changes in the accretion disc and the X-ray heating	Boyle	UCL London	KI 158
	Howarth	UCL London	KI 158
			KI 158
Study of the wind structure in southern T Tauri stars	Lago	Porto	KC 159
			KC 159

Ultraviolet spectroscopy of starbursts in interacting and merging galaxies	Joseph	London	KE 160
	Doyon	London	KE 160
	Wright	Edinburgh	KE 160
	Lamb	Illinois	KE 160
	Callagher	USA	KE 160
	Bushouse	NASA	KE 160
Ultraviolet spectroscopy of starbursts in NGC 253 and M82	Joseph	London	KE 161
	Doyon	London	KE 161
	St. Louis	UCL London	KE 161
Pulsation and Mass Loss in P Car (B4Ve)	Porri	Trieste	KA 162
	Stalio	Trieste	KA 162
	Polidan	Arizona	KA 162
High ionization emission lines in V356 SGR	Stalio	Trieste	KA 164
			KA 164
	Polidan	Tucson	KA 164
UV (912-3200 A) spectral energy distributions of early O-stars	Stalio	Trieste	KA 165
	Malagnini	Trieste	KA 165
	Morossi	Trieste	KA 165
	Polidan	Arizona	KA 165
The upper atmospheres of late M stars	Querci, F.	Toulouse	KC 166
	Querci, M.	Toulouse	KC 166
	Johnson	Indiana	KC 166
	Eaton	Indiana	KC 166
Lyman alpha emission in IZw18	Deharveng	Marseille	KE 170
	Gry	Marseille	KE 170
	Joubert	Marseille	KE 170
	Kunth	Paris	KE 170
Aerosols in the stratospheres of Uranus and Neptune - Raman scattering as a diagnostic tool	Fricke, KH	Bonn	KS 173
	von Zahn	Bonn	KS 173
			KS 173
	Wagener	USA	KS 173
	Caldwell	USA	KS 173
NGC 6166 - an extreme UV-excess elliptical galaxy	Gilmore	Cambridge	KE 174
	Aldington	Cambridge	KE 174
	Wyse	USA	KE 174
Coordinated study of the long term variability of 3 BL Lacertae objects	George	Leicester	KQ 175
	Bromage	RAL	KQ 175
	Warwick	Leicester	KQ 175
The long term variability of X-ray bright BL Lacertae objects	George	Leicester	KQ 176
	Bromage	RAL	KQ 176
	Warwick	Leicester	KQ 176
UV observations of supernovae	Panagia	Baltimore	KE 178
	Macchetto	Baltimore	KE 178
Observations of SN 1987A	Panagia	Baltimore	KE 179
	Kirshner	USA	KE 179

UV observations of the black hole candidate LMC X-3	Treves	Milano	KI 181
	Beloni	Milano	KI 181
	Chiappetti	Milano	KI 181
	Falomo	Padova	KI 181
	Maraschi	Milano	KI 181
	Tanzi	Milano	KI 181
Coordinated UV-optical-IR observations of blazars	Tanzi	Milano	KQ 182
	Bouchet	La Silla	KQ 182
	Chiappetti	Milano	KQ 182
	Falomo	Padova	KQ 182
	Maraschi	Milano	KQ 182
	Treves	Milano	KQ 182
Multiwavelength observations of stellar flares	Doyle	Armagh	KC 183
	Butler	Armagh	KC 183
	Andrews	Armagh	KC 183
	Foing	Paris	KC 183
	Linsky	JILA	KC 183
	Brown	JILA	KC 183
The role of the magnetic field in the silicon Bp star atmospheres	Megessier	Meudon	KA 184
			KA 184
Synoptic observations of strong wind episodes and non-radial pulsation changes in Be stars	Henrichs	Amsterdam	KA 186
	Baade	Garching	KA 186
	Percy	Colorada	KA 186
	Grady	GSFC	KA 186
Stellar wind variability in O stars	Henrichs	Amsterdam	KA 187
	Kaper	Amsterdam	KA 187
	Zwarthoed	Amsterdam	KA 187
	Baade	Garching	KA 187
	Bohlin	GSFC	KA 187
	Bolton	Toronto	KA 187
Multifrequency spectroscopic and photometric observations of rapid variable Be-shell stars	Henrichs	Amsterdam	KA 188
	Baade	Garching	KA 188
	Percy	Toronto	KA 188
	Peters	California	KA 188
The C/O and N/O abundance ratios of Type I Magellanic Cloud Planetary Nebulae	Barlow	UCL London	KM 189
	Monk	UCL London	KM 189
	Clegg	UCL London	KM 189
UV spectra of O-rich Supernova Remnants in the LMC and SMC	Danziger	Garching	KE 190
	Matteucci	Garching	KE 190
	Blair	USA	KE 190
Local Interstellar Hydrogen and Deuterium	Vidal-Madjar	Paris	KM 191
	Gry	Marseille	KM 191
	Murthy	Baltimore	KM 191
	Henry	Baltimore	KM 191
	Wofford	Baltimore	KM 191
	Moos	Baltimore	KM 191
	Linsky	JILA	KM 191

"Chemical abundance and Stellar Wind Properties of PN Central Stars"	Kudritzki	Muenchen	KA 192
	Mendez	Muenchen	KA 192
	Husfeld	Muenchen	KA 192
	Hamann	Kiel	KA 192
A fresch look at winds in Zeta Aur binaries	Reimers	Hamburg	KC 193
	Baade	Hamburg	KC 193
	Schroder	Hamburg	KC 193
	Thiering	Hamburg	KC 193
A search for interacting binary companions of Red Giant	Reimers	Hamburg	KC 194
			KC 194
H2 Emission in Low to Moderate Excitation Herbig-Haro objects	Solf	Heidelberg	KM 195
	Raga	Seattle	KM 195
	Bohm	Seattle	KM 195
Wind and chromosphere of the G supergiant HR 6902 during eclipse	Reimers	Hamburg	KC 196
	Griffin,RF	Cambridge	KC 196
	Griffin,REM	Cambridge	KC 196
	Schroder	Hamburg	KC 196
Collimated outflows from T Tauri stars	Solf	Heidelberg	KM 197
	Raga	Washington	KM 197
	Bohm	Washington	KC 196
IUE observations of young planetary nebulae	Pottasch	Groningen	KA 200
	Parthasarathy	Bangalore	KA 200
A study of reflection nebulae by means of fast rotators	Vladilo	Trieste	KM 201
	Molaro	Trieste	KM 201
	Centurion	Canarias	KM 201
Boron abundance in the population II stars	Molaro	Trieste	KC 202
			KC 202
Multifrequency behaviour of the transient X-ray Be system A0535+26 = HDE 245770	Giovannelli	Frascati	KI 203
	Burger	Bruxelles	KI 203
	V. Dessel	Bruxelles	KI 203
	Waters	Utrecht	KI 203
	de Martino	Utrecht	KI 203
	Bartolini	Bologna	KI 203
	Guarnieri	Bologna	KI 203
	Piccioni	Bologna	KI 203
	Kurt	Moskow	KI 203
	Sheffer	Moskow	KI 203
Search for time-variable wind ionization in binary planetary nuclei	Grewing	Tuebingen	KA 204
	Bianchi	Torino	KA 204
			KA 204
IUE Observations of newly discovered Planetary Nebulae	Grewing	Tuebingen	KM 205
	Bianchi	Torino	KM 205
	Baessgen	Tuebingen	KM 205
The imminent outburst of the nova T Pyx	Selvelli	Trieste	KI 209
	Cassatella	VILSPA	KI 209
	Gilmozzi	VILSPA	KI 209

UV monitoring of Mira variables	Cassatella	VILSPA	KC 210
Asymptotic Giant Branch to Planetary Nebula phase: FG Sge	Cassatella	VILSPA	KC 211
	Brocato	ESO	KC 211
	Fernandez	Madrid	KC 211
	Gonzalez R.	VILSPA	KC 211
The width of the Mg II h+k lines in M Dwarf Stars	Elgaroy	Oslo	KC 214
	Engvold	Oslo	KC 214
	Carlsson	Oslo	KC 214

PUBLICATIONS IN MAIN JOURNALS

PUBLISHED 1 JANUARY - 30 SEPTEMBER 1988

This list contains all papers that have appeared between the above dates in major refereed journals (Mon. Not. R. astr. Soc., Astron. & Astrophys., Astrophys. J.) and which make reference the IUE data.

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

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

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MERGED LOG OF IUE OBSERVATIONS

1 NOVEMBER 1987 - 31 MARCH 1988

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

The programme reference codes (column 1) identifying the ESA and NASA proposals for the tenth round are listed in ESA IUE Newsletter, 28, 17, 1987.

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

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 ABO
15	OF	65	MISIDENTIFIED TARGETS
16	SD O	66	INTERACTING BINARIES
17	WD O	67	
18		68	
19	UV-STRONG	69	HERBIG-HARO OBJECTS
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-SEYFEI
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 LOC
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 PROJEC
(Please note the introduction of a new class 69. Ed)

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 16-NOV-88 Page 77

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC176	SKY	99	99.99	0000000	+000000	L	3	32330	L			87111512	124844	002500	110	V SERENDIPITY DURING L
PHCAL	NULL	99		0000000	000000	H	1	12379	L	3980	FU	87122606	064700	000000	02	G B=39
JC176	SKY	29	99.99	0000000	+000000	L	3	32332	L			87111515	153056	002500	110	V
PHCAL	T FLOOD	99		0000000	000000	L	1	12405	S			88010101	010800	000025	09	G B=105
JC176	SKY	29	99.99	0000000	+000000	L	3	32334	L			87111518	180222	003000	110	V
PHCAL	WAVECAL	98		0000000	000000	L	1	12405	S			88010101	010900	000001	09	G B=105
PHCAL	NULL	99	99.99	0000000	-000000		1	12201				87113010	000000	000000	001	V
PHCAL	T FLOOD	99		0000000	000000	H	1	12406	S			88010101	014600	000025	09	G B=125
PHCAL	NULL	99	99.99	0000000	-000000		3	32428				87113011	000000	000000	000	V
PHCAL	WAVECAL	98		0000000	000000	H	1	12406	S			88010101	014800	000016	09	G B=125
JM059	NULL	99	99.99	0000000	-000000		3	32621				87122610	100000	000000	000	V
PHCAL	NULL	99		0000000	000000	H	2	18164				88010102	021200	000000	00	G B=09
JM059	NULL	99	99.99	0000000	+000000		3	32631				87122809	000000	000000	100	V PREAD
PHCAL	T FLOOD	99		0000000	000000	L	3	32647	S			88010102	023800	000005	09	G B=114
JE179	NULL	99	99.99	0000000	+000000		1	12670				88021504	000000	000000	001	V
PHCAL	WAVECAL	98		0000000	000000	L	3	32647	S			88010102	024000	000002	09	G B=114
JET00	NULL	99	99.99	0000000	+000000		1	12685				88021804	000000	000000	000	V
PHCAL	T FLOOD	99		0000000	000000	H	3	32648	S			88010103	030600	000005	09	G B=140
IC038	NULL	99	99.99	0000000	+000000		1	12692				88021904	000000	000000	682	V
PHCAL	WAVECAL	98		0000000	000000	H	3	32648	S			88010103	030800	000200	09	G B=140
JE010	NULL	99	99.99	0000000	+000000		3	33001				88022900	000000	000000	001	V
PHCAL	T FLOOD	99		0000000	000000	L	2	18165	S			88010103	032600	000010	07	G B=81
PHCAL	WAVECAL	98		0000000	000000	L	2	18165	S			88010103	032800	000001	07	G B=81
PHCAL	T FLOOD	99		0000000	000000	H	2	18166	S			88010103	035400	000010	09	G B=137
PHCAL	WAVECAL	98		0000000	000000	H	2	18166	S			88010103	035500	000022	09	G B=137
PHCAL	NULL	99		0000000	000000	H	3	32656				88010205	050200	000000	01	G B=23
PHCAL	NULL	99		0000000	000000		2	18167				88020811	114500	000000		G FLAT FIELD
PHCAL	WAVECAL	98		0000000	000000	L	1	12914	L			88032321	212200	000001	09	G B=104
PHCAL	T FLOOD	99		0000000	000000	L	1	12914	L			88032321	212400	000025	09	G B=104
PHCAL	WAVECAL	98		0000000	000000	H	1	12915	L			88032321	215800	000016	09	G B=115
PHCAL	T FLOOD	99		0000000	000000	H	1	12915	L			88032322	220000	000025		G
PHCAL	NULL	99		0000000	000000	H	2	18176				88032322	221800	000000	00	G B=15
PHCAL	WAVECAL	98		0000000	000000	L	3	33148	S			88032322	224300	000002	09	G B=105
PHCAL	T FLOOD	99		0000000	000000	L	3	33148	S			88032322	224500	000005		G
PHCAL	WAVECAL	98		0000000	000000	H	3	33149	S			88032323	230900	000200	09	G B=130
PHCAL	T FLOOD	99		0000000	000000	H	3	33149	S			88032323	231100	000005		G
PHCAL	WAVECAL	98		0000000	000000	L	2	18177	S			88032323	233000	000001	07	G B=82
PHCAL	T FLOOD	99		0000000	000000	L	2	18177	S			88032323	233100	000010	07	G B=82
PHCAL	WAVECAL	98		0000000	000000	H	2	18178	S			88032323	235500	000022	09	G B=125
PHCAL	T FLOOD	99		0000000	000000	H	2	18178	S			88032323	235700	000010	09	G B=125
PHCAL	T FLOOD	99		0000000	000000	H	2	18179	S			88032401	010400	000010	09	G B=125
PHCAL	T FLOOD	99		0000000	000000	H	3	33150				88032401	013700	000005	09	G B=112
PHCAL	T FLOOD	99		0000000	000000	H	1	12916	S			88032402	023100	000025	09	G B=105
0027Y	HD	432	53	2.3	0006297	+585226	H	1	12067	L	2369	FU	87111203	032700	000110	501	G C=205,B=22
0027Y	HD	432	53	2.3	0006297	+585226	H	1	12068	L	2466	FU	87111204	041700	000110	503	G C=200,B=41

Vilspa Data Base 16-NOV-88 Page 78

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12069	L	2308	FU	87111204	045300	000120	502	G C=220,B=40
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12070	L	2378	FU	87111205	052600	000125	X03	G C=1.2X,B=42
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12071	L	2442	FU	87111206	060200	000115	503	G C=210,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12072	L	2308	FU	87111206	063700	000110	503	G C=200,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12073	L	2299	FU	87111207	071400	000116	503	G C=215,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12074	L	2336	FU	87111207	074700	000114	503	G C=204,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12075	L	2337	FU	87111208	082000	000114	503	G C=205,B=43
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12076	L	2297	FU	87111208	085300	000112	403	G C=190,B=43
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12077	L	2317	FU	87111209	092600	000114	503	G C=205,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12078	L	2342	FU	87111210	100000	000114	503	G C=210,B=41
OD27Y	HD 432	53	2.3	0006297	+585226	H	1	12079	L	2338	FU	87111210	103800	000115	503	G C=205,B=42
JA019	AO CAS 13		06.49	0015033	+510920	H	3	32892	L	8809	FO	88020910	105406	000500	500	V
CBJNE	HD 236429	53	8.9	0027103	+595608	L	3	32893	L	544	FO	88020912	120100	036000	306	G C=120,B=80
CBJNE	HD 236429	53	8.9	0027103	+595608	L	1	12634	L	506	FO	88020918	181000	005700	403	G C=157,B=48
GPJCM	0031-274	37	14.2	0031250	-272454	L	1	12468	L	39	BO	88011004	042900	002000	406	G C=180,B=75
PHCAL	HD3360	20	03.94	0034100	+533719	L	1	12090	L	763	FU	87111417	175813	000001	703	V
PHCAL	HD3360	20	04.00	0034100	+533719	L	3	32324	L	724	FU	87111417	172548	000001	801	V
PHCAL	HD3360	20	03.88	0034100	+533719	L	1	12091	L	801	FU	87111418	183221	000001	703	V
PHCAL	HD 3360	20	03.79	0034100	+533719	L	1	12110	L	809	FU	87111616	162749	000000	502	V
PHCAL	HD 3360	20	03.87	0034100	+533719	L	3	32343	L	813	FU	87111616	162310	000000	500	V
PHCAL	HD3360	20	03.88	0034100	+533719	L	3	32344	L	805	FU	87111617	171959	000000	500	V
PHCAL	HD 3360	20	03.88	0034100	+533719	L	1	12111	L	800	FU	87111617	172430	000000	502	V
PHCAL	HD 3360	20	03.88	0034100	+533719	L	3	32345	L	804	FU	87111618	181639	000000	500	V
PHCAL	HD 3360	20	03.87	0034100	+533719	H	1	12112	L	809	FU	87111618	182137	000017	503	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	3	32365	L	824	FU	87112009	092100	000024	402	G C=182,B=35
PHCAL	HD 3360	20		0034103	+533719	H	1	12135	L	826	FU	87112009	092600	000021	503	G C=222,B=44
PHCAL	HD 3360	20	3.7	0034103	+533719	H	2	18153	L	866	FU	87120207	070900	000029	402	G C=180,B=35,N=0
PHCAL	HD 3360	20	3.7	0034103	+533719	L	3	32869	L	807	FU	88020602	022900	000001	500	G C=200,B=15
PHCAL	HD 3360	20	3.7	0034103	+533719	L	1	12616	L	806	FU	88020602	023900	000001	502	G C=200,B=40
PHCAL	HD 3360	20	3.7	0034103	+533719	H	2	18172	L	837	FU	88020902	022400	000029	502	G C=185,B=32
EHJPH	P 420	72	16.0	0040490	+405327	L	3	32847	L		BO	88020314	140300	040000	307	G C=120,B=81
MCJBB	S 2	23	11.5	0042174	-733118	L	1	12440	L	196	SO	88010500	001800	001940	402	G C=180,B=36
MCJBB	S 2	23	11.5	0042174	-733118	L	3	32665	L	207	SO	88010500	004500	005330	402	G C=147,B=33
MCJBB	S 4	20	13.8	0043104	-725824	L	1	12439	L	44	SO	88010404	042300	004000	303	G C=132,B=45
MCJBB	S 4	20	13.8	0043104	-725824	L	3	32663	L	48	SO	88010405	051100	006755	301	G C=82,B=27
JM091	SMC L66	70	17.00	0043302	-734034	L	3	32380	L		BO	87112215	155542	017300	041	V
EHJPH	P 968	72	16.0	0043470	+415502	L	3	32802	L		BO	88012820	201300	017000	302	G C=78,B=40
EHJPH	P 968	72	16.0	0043488	+415520	L	3	32812	L		BO	88012917	173400	007500	301	G C=47,B=25
EHJPH	P 968	72	16.0	0043488	+415520	L	1	12604	L		BO	88013116	165200	031000	307	G C=150,B=86
GQJRG	PG 0044+030	85	15.9	0044312	+030333	L	1	12154	L		BO	87112320	202900	017500	305	G C=138,B=67
GQJRG	PG 0044+030	85	15.9	0044312	+030333	L	1	12155	L		BO	87112323	235900	017100	305	G C=125,B=66
GQJRG	PKS 0044+03	85	15.9	0044312	+030335	L	1	12514	L		BO	88011716	161300	013500	308	G C=148,B=100
GQJRG	PKS 0044+03	85	15.9	0044312	+030335	L	1	12515	L		BO	88011718	185900	012500	309	G C=175,B=133
GQJRG	PKS 0044+03	85	15.9	0044312	+030335	L	1	12516	L		BO	88011721	213400	007500		G
MCJBB	S 6	23	13.2	0045028	-732448	L	3	32657	L	121	SO	88010302	021600	005220	400	G C=123,B=20

Vilspa Data Base 16-NOV-88 Page 79

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MCJBB	S 6	23	13.2	0045028	-732448	L	1	12431	L	130	SO	88010303	031600	003530	503	G C=223,B=43
OSJCG	AV 26	13	12.6	0046000	-732435	L	9	02004	2			87120506	062400	002000		G
OSJCG	AV 26	13	12.6	0046000	-732435	L	1	12233	L	139	SO	87120506	065500	001300	501	G C=231,B=21
OSJCG	AV 26	13	12.6	0046019	-732434	H	3	32466	L	135	SO	87120519	191300	033700	09	G B=188
OBJEF	SK 27	24	11.0	0047170	-733751	L	3	32634	L	139	FO	87122904	041700	002800	401	G C=159,B=30
OBJEF	SK 27	24	11.0	0047170	-733751	L	1	12393	L	140	FO	87122905	051300	001500	403	G C=189,B=46
OBJEF	SK 35	23	12.4	0048309	-725422	L	1	12387	L	171	SO	87122802	020500	002400	501	G C=189,B=24
OSJCG	AV 75	13	12.8	0048459	-730845	L	9	02005	2			87120605	055300	002000		G
OSJCG	AV 75	13	12.8	0048459	-730845	L	1	12237	L	108	SO	87120606	061400	001600	03	G B=45
OSJCG	AV 75	13	12.8	0048459	-730844	H	3	32468	L	105	SO	87120617	173100	043800	09	G B=179
OBJEF	SK 40	24	11.1	0048550	-734427	L	3	32629	L	138	FO	87122805	051800	002000	402	G C=181,B=37
OBJEF	SK 40	24	11.1	0048550	-734427	L	1	12389	L	134	FO	87122806	060400	000900	503	G C=208,B=44
MCJBB	AV 85	20	13.8	0049131	-730924	L	1	12931	L	66	SO	88032702	022500	002500	402	G C=153,B=38
MCJBB	AV 85	20	13.8	0049131	-730924	L	3	33168	L	66	SO	88032720	200300	004400	401	G C=138,B=25
MCJBB	AV 85	20	13.8	0049131	-730924	L	1	12940	L	66	SO	88032802	021900	003000	402	G C=189,B=40
JM091	SMC N47	70	17.00	0050143	-733649	L	3	32389	L		BO	87112416	161926	015000	261	V
MCJBB	S 15	23	13.0	0050287	-722506	L	3	32658	L	81	SO	88010304	044500	006140	01	G B=22
MCJBB	S 15	23	13.0	0050287	-722506	L	1	12432	L	79	SO	88010305	055400	003320	03	G B=41
MCJBB	S15	23	13.0	0050287	-722506	L	3	33171	L	86	SO	88032801	011800	005220	01	G B=24
OBJEF	SK 56	25	10.9	0051219	-725500	L	3	32628	L	150	FO	87122803	030900	003400	402	G C=144,B=35
OBJEF	SK 56	25	10.9	0051219	-725500	L	1	12388	L	153	FO	87122804	040200	001800	406	G C=204,B=77
MCJBB	S21	23	13.8	0053175	-731232	L	1	12929	L	46	SO	88032621	213800	003100	402	G C=170,B=40
MCJBB	S21	20	13.8	0053175	-731232	L	3	33166	L	44	SO	88032622	221700	005300	401	G C=150,B=25
PRJCG	HD 5394	26	2.1	0053402	+602646	H	3	32676	L	3115	FU	88010700	002800	000008	502	G C=210,B=39
PRJCG	HD 5394	26	2.1	0053402	+602646	H	3	32923	L	2975	FU	88021420	203100	000008	502	G C=215,B=38
JA194	HD 5394	26	02.31	0053403	+602647	H	3	32401	L	3241	FU	87112615	150802	000008	500	V
JM091	SMC N54	70	17.00	0054162	-703542	L	3	32384	L		BO	87112316	161135	015600	261	V
JM091	SMC L305	70	17.00	0054477	-724314	L	3	32383	L		BO	87112312	121540	018000	201	V
OBJEF	SK 68	23	12.1	0055480	-713605	L	3	32626	L	226		87122707	072400	004000	401	G C=142,B=21
OBJEF	SK 68	23	12.1	0055480	-713605	L	1	12385	L	225	SO	87122708	082100	002200	402	G C=187,B=38
MCJBB	S 29	23	12.7	0057480	-721712	L	1	12437	L	103	SO	88010400	002000	002000	402	G C=180,B=38
MCJBB	S 29	23	12.7	0057480	-721712	L	3	32661	L	107	SO	88010401	010200	004800	401	G C=163,B=25
MCJBB	S 33	23	11.5	0059469	-721742	L	1	12441	L	83	SO	88010502	020900	005910	303	G C=75,B=44
MCJBB	S 33	23	11.5	0059469	-721742	L	3	32666	L	89	SO	88010503	031700	021000	304	G C=85,B=59
MCJBB	AV 308	20	14.1	0101029	-730701	L	1	12938	L	36	SO	88032721	210300	003600	303	G C=144,B=50
MCJBB	AV 308	20	14.1	0101029	-730701	L	3	33169	L	34	SO	88032721	214800	007000	404	G C=170,B=58
OBJEF	SK 106	25	10.9	0101119	-722559	L	3	32635	L	130	FO	87122906	063200	006000	501	G C=216,B=24
OBJEF	SK 106	25	10.9	0101119	-722559	L	1	12394	L	132	FO	87122907	073900	001100	503	G C=198,B=41
MCJBB	S36	20	13.8	0101224	-724142	L	1	12939	L	48	SO	88032723	231200	003200	404	G C=190,B=55
MCJBB	S36	20	13.8	0101224	-724142	L	3	33170	L	42	SO	88032723	235200	004700	500	G C=173,B=20
JI026	RX AND	54	12.62	0101459	+410154	L	3	32595	L	153	SO	87122315	150513	002500	330	V
JI026	RX AND	54	12.62	0101459	+410154	L	1	12366	L	153	SO	87122315	153953	002000	331	V
JI026	RX AND	54	12.54	0101459	+410154	L	3	32596	L	164	SO	87122316	161429	004000	330	V PREAD
JA175	IC 1613-A2	23	17.05	0102264	+015438	L	1	12193	L		BO	87112912	121749	039000	304	V
JA175	IC 1613	82	99.90	0102266	+015212	L	3	32416	L		BO	87112812	120946	036000	302	V SERENDIPITY FOR LWP

Vilspa Data Base 16-NOV-88 Page 80

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA175	IC 1613-A4	23	99.90	0102266	+015212	L	1	12188	L		BO	87112812	120707	040000	304	V
JA175	B42	23	16.80	0102319	+015328	L	3	32410	L		BO	87112712	121210	039500	403	V
OBJEF	SK 114	24	11.4	0103299	-722220	L	3	32630	L	404	SO	87122807	070700	003800	401	G C=171,B=21
OBJEF	SK 114	24	11.4	0103299	-722220	L	1	12390	L	404	SO	87122808	080500	002100	502	G C=199,B=40
OBJEF	SK 117	24	11.2	0103359	-722435	L	3	32623	L	476	SO	87122702	021100	006000	402	G C=148,B=34
OBJEF	SK 117	24	11.2	0103359	-722435	L	1	12383	L	477	SO	87122703	034500	002700	406	G C=206,B=80
OBJEF	SK 117	24	11.2	0103359	-722435	L	3	32624	L	122	FO	87122704	042700	006000		G C=65,C=24
MCJBB	S47	20	13.8	0104311	-723403	L	1	12930	L	57	SO	88032623	232400	002800	402	G C=190,B=40
MCJBB	S47	20	13.8	0104311	-723403	L	3	33167	L	54	SO	88032701	012600	003800	401	G C=158,B=22
MCJBB	S49	23	13.3	0104429	-724347	L	1	12928	L	65	SO	88032620	200400	002100	502	G C=195,B=39
MCJBB	S49	23	13.3	0104429	-724347	L	3	33165	L	66	SO	88032620	203400	002500		G C
MCJBB	S 48	23	13.5	0105094	-732624	L	1	12438	L	53	SO	88010402	023000	002630	403	G C=168,B=41
MCJBB	S 48	23	13.5	0105094	-732624	L	3	32662	L	62	SO	88010403	030500	004830	401	G C=128,B=26
OBJEF	SK 130	53	10.6	0105499	-724400	L	1	12401	L	204	FO	87123007	070700	001630	402	G C=178,B=38
OBJEF	SK 130	53	10.6	0105499	-724400	L	3	32642	L	237	FO	87123007	074400	003800	301	G C=122,B=30
JE191	HD6755	45	08.24	0106290	+611648	L	1	12595	L	1907	FO	88013012	120559	000140	401	V
JE191	HD6755	45	08.24	0106290	+611648	L	3	32821	L	1913	FO	88013012	121910	006000	202	V
IGJTS	BD +61 219	39	9.5	0107086	+621446	L	1	12672	L	740	FO	88021520	205300	006000	402	G C=173,B=40
OBJEF	SK 137	24	11.0	0107340	-724810	L	3	32625	L	147	FO	87122705	052600	001400	400	G C=121,B=15
OBJEF	SK 137	24	11.0	0107340	-724810	L	1	12384	L	144	FO	87122706	061600	001030	403	G C=176,B=42
JC176	GL54.1	29	12.03	0109570	-171517	L	3	32331	L	259	SO	87111514	142728	003000	110	V
JC176	GL54.1	29	12.09	0109570	-171517	L	1	12100	L	247	SO	87111515	150542	007000	113	V
JQ184	MKN975	84	15.00	0111124	+130025	L	3	32367	L		BO	87112012	125314	035400	353	V POSITION ANGLE=-32 D
JQ184	MKN 975	84	15.00	0111125	+130027	L	3	32357	L		BO	87111812	120226	028600	342	V TRACKING PROBLEM. EF
HCJTA	HD 7351	50	6.4	0111197	+281558	L	1	12103	L	8554	FO	87111603	031500	002000	352	G E=224,C=80,B=39
HCJTA	HD 7351	50	6.4	0111197	+281558	L	3	32472	L	7690	FO	87120717	173200	067500	229	G E=132,C=128,B=122
HCJTA	HD 7351	50	6.4	0111197	+281558	L	3	32472	L	7690	FO	87120800	001300	067500	229	G E=132,C=128,B=122
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32486	L			87121001	015100	001500	21	G E=41,B=25
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32487	L			87121002	024200	001500	31	G E=52,B=28
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32488	L			87121003	033300	001500	31	G E=76,B=30
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32489	L			87121004	042400	001500	31	G E=122,B=25
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32490	L			87121005	051600	001500	31	G E=106,B=25
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32491	L			87121006	060800	001500	41	G E=149,B=24
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32492	L			87121006	065900	001500	31	G E=119,B=25
SJJHM	JUPITER	03	-2.5	0113199	+061507	L	3	32493	L			87121007	075100	001500	31	G E=69,B=23
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32477	L			87120902	022600	001500	32	G E=59,B=32
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32478	L			87120902	025600	001500	32	G E=66,B=35
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32479	L			87120903	034700	001500	32	G E=82,B=35
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32480	L			87120904	043800	001500	32	G E=86,B=35
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32481	L			87120905	053100	001500	32	G E=94,B=40
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32482	L			87120906	062300	001500	32	G E=91,B=40
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32483	L			87120907	071500	001500	32	G E=86,B=38
SJJHM	JUPITER	03	-2.5	0113250	+061518	L	3	32484	L			87120908	080300	001500	22	G E=57,B=37
SPJJW	JUPITER	03	-2.7	0113380	+061545	H	3	32469	L			87120702	022200	001500	08	G B=91
SPJJW	JUPITER	03	-2.7	0113380	+061545	H	3	32469	S			87120702	022200	015200	08	G B=91

Vilspa Data Base 16-NOV-88 Page 81

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
OBJEF	SK 156	23	11.9	0114060	-733518	L	1	12400	L	240	SO	87123004	042900	002400	504	G C=220,B=57
OBJEF	SK 156	23	11.9	0114060	-733518	L	3	32641	L	273	SO	87123005	051800	004000	00	G B=11
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32443	L			87120218	181800	010000	09	G B=125
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32444	L			87120220	205400	001500	02	G B=40
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32445	L			87120221	214400	001500	02	G B=40
SJJHM	SKY	07		0114152	+061920	L	3	32446	L			87120222	223900	002500	30	G E=38,B=16
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32447	L			87120300	005600	001500	01	G B=21
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32448	L			87120301	014800	001500	40	G E=159,B=19
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32449	L			87120302	024400	001500	40	G E=160,B=18
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32450	L			87120303	033600	001500	40	G E=149,B=20
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32451	L			87120304	042600	001500	40	G E=142,B=20
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32452	L			87120305	051600	001500	41	G E=154,B=25
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32453	L			87120306	062400	001500	31	G E=59,B=30
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32454	L			87120307	072300	001500	42	G E=154,B=32
SJJHM	JUPITER	03	-2.5	0114152	+061820	L	3	32455	L			87120308	081100	001500	30	G E=45,B=18
SPJJW	JUPITER	03	-2.7	0115367	+061549	H	3	32470	S			87120705	054900	010500	07	G B=85
SPJJW	JUPITER	03	-2.7	0115367	+061549	H	3	32470	L			87120707	073800	001500	07	G B=85
OD32Y	JUPITER	03	2.3	0115587	+062620	S	9	01999	2			87112419	193700	002000		G NO COMMENTS
OD32Y	JUPITER	03	-2.3	0115587	+062620	H	3	32390	L			87112420	201200	018100	X05	G C=7X,B=63
OD32Y	JUPITER	03	-2.3	0115587	+062620	H	3	32390	S			87112420	201300	018100	X05	G C=7X,B=63
JE046	E296IG11	B2	16	0117422	-412950	L	3	32269	L		BO	87110802	022000	046500	308	G C=125,B=100
JE046	E296-IG11	82	17.00	0117423	-412951	E	9	01998	2		BO	87110718	184000	016000		V FOR SWP 32269
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32784	L			88012600	001000	001500	00	G B=20
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32785	L			88012601	010700	001500	00	G B=20
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32786	L			88012601	015900	001500	02	G B=36
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32787	L			88012602	025300	001500	42	G E=151,B=35
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32788	L			88012603	034400	001500	40	G E=147,B=20
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32789	L			88012604	043600	001500	00	G B=19
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32790	L			88012605	052400	001500	00	G B=19
SJJHM	JUPITER	03	-2.5	0123199	+073024	L	3	32791	L			88012606	061100	001500	00	G B=20
SPJJW	SKY (IO)	03		0123540	+073405	L	1	12574	S		FU	88012704	044200	000200	201	G C=50,B=30
SPJJW	IO ECLPS	03	6.0	0123540	+073405	L	1	12575	S		FU	88012705	055400	002600	302	G C=68,B=36
SPJJW	JUPITER	03	-2.4	0124489	+073953	L	1	12581	S			88012823	234500	000010	501	G C=210,B=30
SPJJW	IO ECLPS	03		0124489	+073953	L	1	12582	S			88012900	003000	002000	202	G C=51,B=35
OD32Y	JUPITER	03	-2.4	0125139	+074235	H	3	32813	L			88012919	192800	015200	?3	G E=40,B=45
OD32Y	JUPITER	03	-2.4	0125139	+074235	L	3	32813	L			88012921	211500	001500	?3	G E=40,B=45
SJJHM	JUPITER	03	-2.3	0126213	+075000	L	3	32829				88013122	225700	005000	03	G B=41
SJJHM	JUPITER	03	-2.3	0126213	+075000	L	3	32830	L			88020100	003400	001500	01	G B=23
SJJHM	JUPITER	03	-2.3	0126213	+075000	L	3	32831	L			88020101	012400	001500	01	G B=25
SJJHM	JUPITER	03	-2.3	0126213	+075000	L	3	32832	L			88020102	021200	001500	01	G B=26
SJJHM	JUPITER	03	-2.3	0126213	+075000	L	3	32833	L			88020103	031000	001500	20	G E=38,B=20
SJJHM	IO TORUS	07		0126302	+075057	L	9	02034				88013104	045300	000240		G
SIJHM	IO TORUS	04	5.0	0126417	+075202	L	3	32834	L			88020115	153500	069000	309	G C=166,B=116
SIJHM	IO TORUS	04	5.0	0126417	+075202	L	3	32835	L			88020116	160100	042000	37	G E=113,B=85
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32836	L			88020123	235000	001500	41	G E=157,B=27

Vilspa Data Base 16-NOV-88 Page 82

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32837	L			88020200	004000	001500	31	G E=121,B=22
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32838	L			88020201	012800	001500	31	G E=98,B=27
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32839	L			88020202	021600	001500	31	G E=91,B=24
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32840	L			88020203	030400	001500	31	G E=56,B=23
SJJHM	JUPITER	03	-2.5	0126417	+075202	L	3	32841	L			88020203	035200	001500	22	G E=47,B=31
SPJJW	JUPITER	03	-2.4	0127336	+055312	H	3	32803				88012901	012500	008800	233	G E=69,C=68,B=48
CBJNE	HD 9250	53	7.1	0129180	+632012	L	1	12263	L	3654	FO	87121208	083300	000700	302	G C=100,B=38
IS208	COMET BRAD	06	12.18	0137141	+250002	L	1	12569	L	227	SO	88012514	140658	003700	331	V PREAD. EFFECTIVE EX
IS208	COMET BRAD	06		0137141	+250002	S	9	02031	2			88012514	143500	016000		V FESCAM,0,0,700
NPJTB	NGC 650	71	9.8	0139138	+511948	L	1	12498	L		BO	88011504	045800	010500	333	G E=78,C=87,B=50
NPJTB	NGC 650	71	9.8	0139138	+511948	L	3	32733	L		BO	88011604	045700	009000	34	G E=126,B=52
JE191	HD11007	41	06.29	0145492	+322616	L	1	12612	L	10449	FO	88020308	082048	000040	600	V PREAD
JE191	HD11007	41	06.27	0145492	+322616	L	3	32844	L	10571	FO	88020308	082805	000930	300	V PREAD
USSBS	HD 11415	21	3.38	0150465	+632528	H	3	32615	L	1046	FU	87122506	061900	000037	502	G C=193,B=35
USSBS	HD 11415	21	3.38	0150465	+632528	H	1	12371	L	1042	FU	87122506	062400	000028	503	G C=216,B=45
SBJCG	H 205	40	9.9	0154329	+373107	L	1	12282	L	260	FO	87121506	065300	001800	04	G B=59
SBJCG	H 209	25	9.8	0154379	+371507	L	3	32527	L	330	FO	87121507	073100	000900	301	G C=120,B=27
SBJCG	H 209	25	9.8	0154379	+371507	L	1	12283	L	321	FO	87121508	081100	000800	02	G B=39
JC176	GL84	29	12.11	0202400	-175112	L	3	32333	L	242	SO	87111516	165613	003000	110	V
JC176	GL84	29	12.07	0202400	-175112	L	1	12101	L	250	SO	87111517	173754	007000	213	V
USSBS	HD 13161	33	3.00	0206339	+344504	H	1	12369	L	1293	FU	87122501	015600	000156	503	G C=228,B=44
USSBS	HD 13161	33	3.00	0206339	+344504	H	3	32611	L	1227	FU	87122502	020800	000440	502	G C=208,B=35
USSBS	HD 13161	33	3.00	0206339	+344504	H	3	32612	L	1237	FU	87122502	024500	001400	05	G B=65
JE191	HD13403	44	07.54	0209248	+565825	L	1	12596	L	3541	FO	88013013	134423	000100	401	V
JE191	HD13403	44	07.55	0209248	+565825	L	3	32822	L	3520	FO	88013014	141302	003500	201	V PREAD
MGJJE	HD 14386	49	3.2	0216490	-031213	L	1	12453	L	1272	FU	88010800	005400	001200	502	G E=1.5,C=220,B=35
MGJJE	HD 14386	49	3.2	0216490	-031213	L	1	12453	S	1271	FU	88010801	011400	000800	02	G E=1.5,B=35
SPJMA	C 1987P	06	11.5	0222560	+050318	L	1	12306	L	405	SO	87121818	181600	000600	333	G E=110,C=75,B=44
SPJMA	C 1987P	06	11.5	0222560	+050318	L	1	12306	L	380	SO	87121818	184700	003000	333	G E=110,C=75,B=44
SPJMA	C 1987P	06		0222560	+050318	L	9	02015	2			87121818	185400	000020		G
SPJMA	C 1987P	06	11.5	0222560	+050318	L	3	32556	L	378	SO	87121819	192600	002000	40	G E=135,B=18
SPJMA	C 1987P	06	11.5	0222560	+050318	L	1	12307	L	369	SO	87121819	195900	003000	309	G C=163,B=117
SPJMA	C 1987P	06	11.5	0222560	+050318	L	1	12307	L	369	SO	87121820	203800	003000	309	G C=163,B=117
JS201	BORRELLY	06	11.50	0229181	-070939	L	1	12245	L	418	SO	87120814	145740	008500	343	V
JS201	BORRELLY	06		0229181	-070939	E	9	02010	2			87120815	151000	002000		V
JSTOO	BORRELLY	06	11.50	0230149	-081846	L	1	12240	L	104	FO	87120716	161103	002300	332	V
JSTOO	BORRELLY	06	09.94	0230168	-082617	E	9	02007	2	420	FO	87120713	132300	016000		V
JSTOO	BORRELLY	06	11.49	0230168	-082617	H	1	12239	L	420	SO	87120713	130129	015000	044	V
JSTOO	BORRELLY	06	09.85	0230168	-082617	E	9	02008	L	453	FO	87120713	132300	000500		V
JE191	HD16031	31	10.22	0231463	-123601	L	1	12613	L	325	FO	88020309	092925	001000	501	V
AGJFB	NGC 1068	84		0240055	-001343	L	3	32627	L		BO	87122718	182500	038500	338	G E=146,C=180,B=92
AGJFB	NGC 1068	84	12.5	0240068	-001339	L	3	32921	L		BO	88021412	121600	040000	337	G E=115,C=130,B=82
CMJFB	HD 16970	30	3.5	0240420	+030142	H	1	12360	L	840	FU	87122301	015800	000125	403	G C=158,B=42
CMJFB	HD 16970	30	3.5	0240420	+030142	H	1	12361	L	833	FU	87122302	023500	000310	03	G B=50
CMJFB	HD 16970	30	3.5	0240420	+030142	H	1	12716	L	842	FU	88022123	231000	000200	503	G C=216,B=43

Vilspa Data Base 16-NOV-88 Page 83

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA089	HD17081	22	04.53	0241445	-140410	H	3	32303	S	451	FU	87111216	164732	000400	400	V
JA089	HD17081	22	04.53	0241445	-140410	H	3	32304	S	449	FU	87111217	172130	000530	500	V
SCJPF	COM BRAD	06	11.5	0242099	-190728	D	9	02002	2			87112722	220100	002000		G NO COMMENTS
SCJPF	COM BRAD	06	11.5	0242099	-190728	L	1	12181	L	394	SO	87112722	221600	010500	3X6	G E=1.5X,C=140,B=79
SCJPF	COM BRAD	06	11.5	0242099	-190728	L	1	12181	S	394	SO	87112722	221700	010500	3X6	G E=1.5X,C=140,B=79
SCJPF	COM BRAD	06	11.5	0242099	-190728	L	3	32412	L	390	SO	87112800	002700	001500	30	G E=107,B=12
JC116	HD 17387	44	09.28	0244349	-133300	L	1	12249	L	756	FO	87120909	093700	001500	342	V
SCJMA	COMETP/B	06	10.0	0244357	+345214	L	1	12530	L	126	SO	88011916	162700	016000	3X7	G E=1.5X,C=110,B=89
SCJMA	COMETP/B	06	10.0	0244357	+345214	L	9	02024	2			88011916	163600	000020		G
SCJMA	COMETP/B	06	10.0	0244357	+345214	L	3	32753	L	124	SO	88011920	202000	003000	30	G E=112,B=20
GDJWC	HD 17576	44	7.9	0246079	-371059	L	1	12107	L	1723	FO	87111609	092700	000120	X02	G C=1.5X,B=39
GDJWC	HD 17576	44	7.9	0246079	-371059	L	3	32340	L	1758	FO	87111609	093300	000115	X00	G C=1.5X,B=20
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32600	L	791	FU	87122403	033500	000406	03	G B=50
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32601	L	800	FU	87122404	043100	000406	06	G B=73
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32602	L	808	FU	87122405	051500	000406	06	G B=75
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32603	L	804	FU	87122406	060500	000406	06	G B=71
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32604	L	807	FU	87122406	064800	000406	05	G B=67
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32605	L	804	FU	87122407	073600	000406	05	G B=67
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	32606	L	807	FU	87122408	082000	000406	05	G B=70
SDJGW	02503-02	37	14.4	0250192	-023732	L	3	32937	L		BO	88021800	000400	006000	301	G C=84,B=26
SDJGW	02503-02	37	14.4	0250192	-023732	L	1	12684	L		BO	88021801	011100	004000	306	G C=133,B=80
HCJSK	SY FOR	66	11.1	0251149	-375817	L	3	32643	L	237	FO	87123007	074400	003800	301	G C=122,B=30
JI095	SY FOR	57	11.07	0251150	-375818	L	1	12402	L	153	FO	87123013	133050	012000	361	V
JI095	SY FOR	57		0251150	-375818	E	9	02019	2			87123013	130500	012000		V
HBJAP	BD +01 0514	38	9.8	0254030	+013307	L	3	32501	L	302	FO	87121104	045300	006000	04	G B=60
HBJAP	BD +01 0514	38	9.8	0254030	+013307	L	3	32502	L	324	FO	87121106	063500	003000	402	G C=174,B=39
GDJWC	HD 18622/3	33	3.4	0256219	-403014	L	3	32338	L	2028	FU	87111607	073500	000003	300	G C=95,B=20
GDJWC	HD 18622/3	33	3.4	0256219	-403014	L	1	12106	L	2080	FU	87111608	080600	000002	502	G C=215,B=38
GDJWC	HD 18622/3	33	3.4	0256219	-403014	L	3	32339	L	2122	FU	87111608	084000	000006	401	G C=165,B=25
JC140	HD18925	45	03.34	0301096	+531844	H	3	32917	L	1305	FU	88021404	045033	003000	700	V
USSBS	HD 18925	45	2.9	0301096	+531844	H	3	32616	L	1289	FU	87122507	071500	001400	503	G C=230,B=41
HCJTA	HD 19058	49	3.4	0301578	+383850	L	3	32553	L	1066	FU	87121723	235000	024000		G
SDJGW	K03035-0	39	15.8	0303339	-004248	L	1	12676	L		BO	88021616	162900	018000	305	G C=138,B=70
SDJGW	K03035-0	39	15.8	0303339	-004248	L	3	32933	L		BO	88021619	193600	018000	302	G C=95,B=40
HBJAP	BD +01 0548	38	10.7	0304540	+020148	L	3	32503	L	142	FO	87121107	074800	006000	402	G C=168,B=39
MSJRP	HD 19805	30	7.7	0309346	+484922	L	1	12764	L	1562	FO	88022921	213200	000110	502	G C=206,B=37
MSJRP	HD 19805	30	7.7	0309346	+484922	L	3	33006	L	1575	FO	88022922	220500	000340	501	G C=180,B=22
SCJPF	COM BRAD	06	13.8	0312368	-345456	D	9	02003	2			87112801	015000	002000		G NO COMMENTS
SCJPF	COM BRAD	06	13.8	0312368	-345456	L	1	12182	L	50	SO	87112802	020400	001500	32	G E=96,B=39,N=3
SCJPF	COM BRAD	06	13.8	0312368	-345456	L	1	12182	L	50	SO	87112802	022600	001500	32	G E=96,B=39,N=3
MSJRP	HD 20842	30	7.6	0320040	+513536	L	1	12763	L	1727	FO	88022920	201500	000120	02	G B=38
MSJRP	HD 20842	30	7.6	0320040	+513536	L	3	33005	L	1718	FO	88022920	204800	000240	400	G C=152,B=20
MSJRP	HD 20863	22	7.1	0320151	+482539	L	1	12765	L	3834	FO	88022922	224800	000026	02	G B=38
MSJRP	HD 20863	22	7.1	0320151	+482539	L	3	33007	L	3978	FO	88022923	230600	000112	00	G B=19
ICJDY	HD 21379	30	6.3	0324332	+123343	H	1	12367	L	7783	FO	87122317	174400	002530	504	G C=203,B=52

Vilspa Data Base 16-NOV-88 Page 84

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ICJDY	HD 21379	30	6.3	0324332	+123343	H 3	32597	L	7298	FO	87122318	184600	000200	08	G B=99
ICJDY	HD 21379	30	6.3	0324332	+123343	H 3	32598	L	7233	FO	87122321	214100	000200	09	G B=105
ICJDY	HD 21379	30	6.3	0324332	+123343	H 3	32599	L	7431	FO	87122400	003000	000200	08	G B=99
JM059	H-H 11	69	16.0	0325589	+310535	L 3	32622	L		BO	87122610	103900	044000	09	G B=146
JM059	H-H 11	69	16.0	0325589	+310535	L 3	32622	S		BO	87122618	181600	039500	09	G B=146
JM059	HH 11	58		0325590	+310535	E 9	02017	2			87122610	105000	004000		V
JM059	H-H 7A	69	17.0	0326027	+310510	L 3	32632	L		BO	87122818	180500	044000	09	G B=115
JM059	H-H 7A	69	17.0	0326027	+310510	L 3	32632	S		BO	87122818	180500	010000	09	G B=115
JM059	H-H 7A	69	17.0	0326027	+310510	L 1	12391	L			87122819	195600	029500	07	G B=90
JM059	H-H 7A	69	17.0	0326027	+310510	L 1	12391	S			87122819	195600	029500	07	G B=90
JM059	HH 7A	58		0326028	+310510	E 9	02018	2			87122809	095000	016000		V
JM040	GK PER NEB	76	15.00	0327444	+434423	L 3	32565	L		BO	87122010	100351	040400	023	V GK PER AT (X,Y)=(170
JM040	GK PER NEB	76	00.00	0327453	+434346	L 1	12305	L		BO	87121810	100941	006000	012	V
JM040	GK PER NEB	76	00.00	0327453	+434346	L 3	32555	L		BO	87121811	111732	033000	223	V
ICJDY	HD 21933	22	5.8	0329534	+091221	H 3	32607	L	11600	FO	87122418	181100	004800	07	G B=86
ICJDY	HD 21933	22	5.8	0329534	+091221	H 3	32608	L	11870	FO	87122419	195900	000100	09	G B=105
ICJDY	HD 21933	22	5.8	0329534	+091221	H 3	32609	L	12082	FO	87122421	214900	000100	09	G B=105
ICJDY	HD 21933	22	5.8	0329534	+091221	H 3	32610	L	13183	FO	87122423	233400	005400	08	G B=97
HCJTA	HD 22649	66	5.1	0337477	+630325	L 3	32552	L	23057	FO	87121719	192900	020000	305	G C=145,B=70
HCJTA	HD 22649	66	5.1	0337477	+630325	L 1	12301	L	22784	FO	87121722	225500	000500	45	G E=167,B=65,B=35
HCJTA	HD 22649	66	5.1	0337477	+630325	L 3	33059	L	23479	FO	88030617	173700	007000		G E=106,C=52
LDJDB	HD 22879	41	6.7	0337492	-032229	L 1	12327	L	5281	FO	87122002	023200	000320	502	G C=198,B=40
JA019	HD23089	30	05.28	0341387	+631121	H 3	32891	L	21673	FO	88020908	084426	006000	501	V
JA019	HD23089	30	05.29	0341387	+631121	H 1	12633	L	21528	FO	88020909	095657	001800	502	V
PHCAL	NULL	99		0342369	+235543	L 1	12442				88010515	151800	000000	02	G B=37
PHCAL	SKY	07		0342369	+235543	H 1	12443	L			88010516	161600	036000	07	G B=87
JC070	HZ 708	41		0342370	+235544	E 9	02021	2			88010507	075300	016000		V FES FOR SWP32667
FDJJL	HZ 708	41	10.1	0342370	+235544	L 3	32667	L	212	FO	88010515	154000	042800	309	G C=215,B=125
JC070	HZ 727	41		0342411	+242823	E 9	02020	2			88010407	073918	044000		V
FDJJL	HZ 727	41	9.7	0342411	+242823	L 3	32664	L	313	FO	88010415	151900	044000	29	G E=156,B=139
FDJJL	HZ 727	41	9.7	0342411	+242823	L 3	32664	L	313	FO	88010422	224200	000800	29	G E=156,B=139
GKJTS	HZ 738	44	12.3	0342413	+233600	L 1	12746	L	124	SO	88022620	203300	013500	345	G E=202,C=100,B=65
MSJLW	HD 23410	30	8.1	0342514	+225932	H 1	12397	L	4145	FO	87122918	181300	017000	08	G B=95
MSJLW	HD 23410	30	8.1	0342514	+225932	H 1	12425	L	4640	FO	88010215	155100	003000	403	G C=200,B=50
GKJTS	HZ 882	46	13.0	0343063	+231505	L 1	12757	L	100	SO	88022812	122000	018000	305	G C=104,B=63
GKJTS	HZ 1032	44	11.3	0343294	+241650	L 1	12759	L	338	SO	88022820	203700	012000	09	G B=130
MSJLW	HD 23512	30	8.2	0343362	+232812	H 1	12398	L	1321	FO	87122921	214500	018500	406	G C=186,B=73
MSJLW	HD 23629	30	8.1	0344224	+235747	H 1	12428	L	7607	FO	88010220	200400	003000	04	G B=52
MSJLW	HD 23629	30	8.1	0344224	+235747	H 1	12429	L	7372	FO	88010221	211500	001500	403	G C=185,B=45
MSJLW	HD 23629	30	8.1	0344224	+235747	H 1	12430	L	7653	FO	88010222	221300	004000	04	G B=60
OD39Y	HD 23630	26	2.9	0344303	+235706	H 3	32682	L	1598	FU	88010706	062100	000050	402	G C=188,B=38
OD39Y	HD 23630	26	2.9	0344304	+235707	H 3	32945	L	1535	FU	88021923	230400	000050	502	G C=194,B=36
MSJLW	HD 23642	30	6.8	0344306	+240808	H 1	12426	L	4705	FO	88010217	172000	003000	403	G C=195,B=50
MSJLW	HD 23642	30	6.8	0344306	+240808	H 1	12427	L	5056	FO	88010218	183400	004000	404	G C=200,B=55
GKJTS	HZ 1531	46	13.6	0344429	+234911	L 1	12752	L	55	SO	88022716	162300	016000	237	G E=112,C=103,B=84

Vilspa Data Base 16-NOV-88 Page 85

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmsstt	ECC	Comment
GKJTS	HZ 2034	44	12.7	0345505	+234928	L	1	12751	L	110	SO	88022712	122500	016500	335	G E=127,C=110,B=63
OD39Y	HD 23862	26	5.2	0346123	+235906	H	1	12450	L	21399	FO	88010703	032400	000600	503	G C=250,B=50
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32679	L	21781	FO	88010703	033600	001000	503	G C=238,B=42
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32680	L	21604	FO	88010704	043700	000005	400	G C=140,B=18
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32680	S	21494	FO	88010704	044200	000012	400	G C=130,B=18
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12451	L	21676	FO	88010704	044800	000004	502	G C=220,B=32
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12451	S	21772	FO	88010704	045500	000012	502	G C=200,B=32
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32681	L	21687	FO	88010705	052500	001500	04	G B=55
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32691	L	20809	FO	88010903	033900	001800	07	G B=90
OD39Y	HD 23862	26	5.2	0346123	+235906	H	1	12463	L	19808	FO	88010904	041800	000600	04	G B=59
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32692	L	21699	FO	88010904	045200	001000	503	G C=250,B=50
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12464	S	20164	FO	88010905	054200	000018	702	G C=2.0,B=35
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12464	L	20189	FO	88010905	054700	000005	702	G C=1.5,B=35
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32693	L	20433	FO	88010906	064100	000005	400	G C=145,B=18
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32693	S	20161	FO	88010906	064500	000015	400	G C=165,B=18
OD39Y	HD 23862	26	5.2	0346123	+235906	H	1	12697	L	18709	FO	88021920	200100	000530	03	G B=47
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32942	L	18989	FO	88021920	201500	001500	04	G B=56
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32943	S	19692	FO	88021921	211300	000015	X00	G C=256,B=17
OD39Y	HD 23862	26	5.2	0346123	+235906	L	3	32943	L	19692	FO	88021921	211800	000005	400	G C=140,B=17
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12698	S	19790	FO	88021921	212300	000012	X02	G C=2X,B=33
OD39Y	HD 23862	26	5.2	0346123	+235906	L	1	12698	L	19790	FO	88021921	212800	000004	502	G C=237,B=35
OD39Y	HD 23862	26	5.2	0346123	+235906	H	3	32944	L	20339	FO	88021922	220200	001000	403	G C=147,B=44
OD39Y	HD 23862	26	5.20	0346123	+235906	H	3	32978	L	19471	FO	88022420	204200	001500	04	G B=60
OD39Y	HD 23862	26	5.20	0346123	+235906	H	1	12731	L	19453	FO	88022421	210500	000530	04	G B=53
OD39Y	HD 23862	26	5.20	0346123	+235906	L	3	32979	S	19662	FO	88022422	220400	000015	501	G C=226,B=27
OD39Y	HD 23862	26	5.20	0346123	+235906	L	3	32979	L	19638	FO	88022422	220900	000005	501	G C=226,B=27
OD39Y	HD 23862	26	5.20	0346123	+235906	L	1	12732	S	19588	FO	88022422	221400	000012	02	G B=36
OD39Y	HD 23862	26	5.20	0346123	+235906	L	1	12732	L	19649	FO	88022422	221800	000004	02	G B=36
OD39Y	HD 23862	26	5.20	0346123	+235906	H	3	32980	L	19634	FO	88022422	225200	001000	07	G B=90
WDJES	V471 TAU	46	9.4	0347339	+170623	H	3	32649	L	458	FO	88010116	164400	018600	303	G C=124,B=50
WDJES	V471 TAU	46	9.4	0347339	+170623	L	1	12408	L	363	FO	88010120	200400	002400	402	G C=180,B=35
WDJES	V471 TAU	46	9.4	0347339	+170623	L	3	32650	L	353	FO	88010120	205000	005500	X01	G C=285,B=23
WDJES	V471 TAU	46	9.4	0347339	+170623	L	1	12409	L	362	FO	88010122	220700	002400	402	G C=185,B=35
WDJES	BD +16 516	66	9.4	0347340	+170624	H	1	12435	L	417	FO	88010316	161100	011000	334	G E=107,C=100,B=52
WDJES	BD +16 516	66	9.4	0347340	+170624	H	3	32659	L	400	FO	88010318	181200	021700	304	G C=115,B=54
WDJES	BD +16 516	66	9.4	0347340	+170624	L	1	12436	L	380	FO	88010321	215900	001400	552	G E=242,C=190,B=36
WDJES	BD +16 516	66	9.4	0347340	+170624	L	3	32660	L	378	FO	88010322	223200	000800	400	G C=120,B=18
WDJES	BD +16 516	66	9.4	0347340	+170624	H	1	12447	L	400	FO	88010616	160200	012000	334	G E=92,C=103,B=52
WDJES	BD +16 516	66	9.4	0347340	+170624	L	3	32673	L	410	FO	88010618	183900	001500	300	G C=112,B=18
WDJES	BD +16 516	66	9.4	0347340	+170624	H	1	12448	L	402	FO	88010619	191200	012000	334	G E=114,C=108,B=54
WDJES	BD +16 516	66	9.4	0347340	+170624	L	3	32674	L	424	FO	88010621	214800	001500	300	G C=116,B=18
WDJES	BD +16 516	66	9.4	0347340	+170624	H	1	12449	L	427	FO	88010622	222000	003000	302	G C=80,B=40
GKJTS	HZ 3163	46	12.8	0348539	+241420	L	1	12758	L	99	SO	88022816	161100	021000	339	G E=184,C=170,B=132
JS201	C. BORRELL	06	13.85	0351201	+481352	L	1	12679	L	51	SO	88021705	055237	012000	233	V PREAD
JS201	C. BORRELL	06		0351201	+481351	D	9	02040	2			88021705	054500	004000		V

Vilspa Data Base 16-NOV-88 Page 86

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JS201	C. BORRELL	06	13.85	0351201	+481352	L	3	32934	L	51	SO	88021708	082747	003000	130	V PREAD
JS201	C. BORRELL	06	13.81	0351201	+481352	L	1	12680	L	53	SO	88021709	090504	004500	122	V 20" TAILWARD: NUCLEU
JS201	C. BORRELL	06	13.81	0352214	+474334	L	1	12681	L	53	SO	88021710	101927	004500	122	V 20" SUNWARD: NUCLEUS
PHCAL	HD24760	23	02.99	0354294	+395203	H	1	12421	L	1780	FU	88010213	130349	000007	503	V
PHCAL	HD24760	23	02.91	0354294	+395203	H	1	12631	L	1916	FU	88020810	105453	000007	503	V
CBJNE	HD 25361	53	7.7	0400493	+583125	L	1	12265	L	2689	FO	87121218	180700	001600	502	G C=213,B=39
CBJNE	HD 25361	53	7.7	0400493	+583125	L	3	32512	L	2795	FO	87121218	183400	015000	302	G C=70,B=40
CCJFF	HD 25893	45	7.1	0404140	+375642	L	3	33100	L	3365	FO	88031611	115500	011000	223	G E=59,C=60,B=42
SAJCW	HD 26571	25	6.10	0409530	+221710	L	3	32996	L	7989	FO	88022719	194700	000255	501	G C=198,B=23
SAJCW	HD 26571	25	6.10	0409530	+221710	L	1	12753	L	7916	FO	88022720	200300	000100	502	G C=215,B=38
LDJDB	HD 26965	46	4.4	0412582	-074346	L	1	12326	L	331	FU	87122001	014100	000110	402	G C=165,B=34
LDJDB	HD 26965	46	4.4	0412582	-074346	L	1	12328	L	334	FU	87122003	035400	000200	504	G C=244,B=51
USSBS	HD 27256	45	3.34	0413467	-623553	H	1	12645	L	875	FU	88021112	123100	002500	02	G B=40
WDJDK	0416-55	37	15.4	0416032	-550504	L	3	33106	L		BO	88031711	115200	010000	02	G B=34
WDJDK	0416-55	37	15.4	0416032	-550504	L	1	12872	L		BO	88031713	134000	015000	07	G B=88
TTJAB	HD 283571	58	10.0	0418507	+281933	L	1	12543	L	237	FO	88012201	013200	001000	334	G E=151,C=82,B=58
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12831	L	276	FO	88030920	200800	004400	403	G C=161,C=74,B=43
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12832	L	290	FO	88030921	214600	002000	343	G E=158,C=75,B=44
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12840	L	301	FO	88031120	205400	002000	353	G E=221,C=85,B=46
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12844	L	305	FO	88031220	200300	004400	353	G E=204,C=95,B=43
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12845	L	293	FO	88031221	212600	002000	353	G E=214,C=83,B=47
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12846	L	298	FO	88031222	222700	001000	344	G E=197,C=92,B=51
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12852	L	261	FO	88031419	194600	002000	352	G E=251,C=85,B=40
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12859	L	287	FO	88031519	192900	010800	346	G E=180,C=102,B=76
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12860	L	335	FO	88031522	220300	002000	344	G E=205,C=91,B=58
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12864	L	258	FO	88031620	203900	002000	353	G E=201,C=78,B=43
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12865	L	256	FO	88031621	214200	002000	345	G E=206,C=92,B=62
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12866	L	270	FO	88031622	224200	001000	355	G E=224,C=98,B=61
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12878	L	286	FO	88031820	200000	002000	354	G E=206,C=86,B=53
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12879	L	276	FO	88031821	211000	002000	356	G E=224,C=100,B=71
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12880	L	295	FO	88031822	221700	001800	347	G E=228,C=121,B=90
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12881	L	307	FO	88031823	232500	001800	348	G E=221,C=129,B=100
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12882	L	304	FO	88031900	002900	002000	346	G E=204,C=109,B=78
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12883	L	295	FO	88031901	014000	004000	353	G E=229,C=79,B=45
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12900	L	323	FO	88032119	193100	002000	353	G E=210,C=84,B=46
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12901	L	394	FO	88032120	203900	002000	343	G E=192,C=83,B=46
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12902	L	393	FO	88032121	214400	002000	345	G E=210,C=102,B=69
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12903	L	391	FO	88032122	225300	002000	347	G E=220,C=125,B=88
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12910	L	386	FO	88032300	002500	002000	353	G E=197,C=80,B=43
TTJAB	HD 283571	58	9.8	0418508	+281934	L	1	12911	L	347	FO	88032301	013600	005300	343	G E=193,C=75,B=45
JC164	DE TAU	58	12.00	0418512	+274816	E	9	02022	2	98	SO	88011109	092000	004000		V
PMJNK	DE TAU	58	12.9	0418512	+274816	L	3	32700	L	98	SO	88011116	165200	072000	379	G E=108,C=166,B=114
PMJNK	DE TAU	58	12.9	0418512	+274816	L	1	12472	L	93	SO	88011121	214600	003700	343	G E=178,C=68,B=44
PMJNK	DE TAU	58	12.9	0418512	+274816	L	1	12856	L	103	SO	88031512	124700	002500	342	G E=188,C=68,B=38
PMJNK	DE TAU	58	12.9	0418512	+274816	L	1	12857	L	103	SO	88031513	135000	010000	305	G C=140,B=68

Vilspa Data Base 16-NOV-88 Page 87

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PMJNK	DE TAU	58	12.9	0418512	+274816	L	1	12858	L	99	SO	88031517	175100	002500	242	G E=190,C=60,B=40
NJJEB	HH-1555	76	16.0	0419021	+192505	L	3	32731	L		BO	88011516	161400	036000	09	G B=108
NJJEB	HH-1555	76	16.0	0419023	+192506	L	1	12499	L		BO	88011522	221800	003200	02	G B=40
NJJEB	BURNHAM	76	15.0	0419039	+192458	L	3	32728	L		BO	88011415	155100	036000	306	G C=99,B=73
NJJEB	BURNHAM	76	15.0	0419039	+192458	L	1	12496	L		BO	88011421	215700	005300	303	G C=110,B=42
JI093	PKS0422+00	85	15.68	0422125	+002917	L	3	32697	L	10	SO	88011008	080609	040000	303	V
LDJDB	HD 28068	44	8.1	0423320	+164429	L	1	12704	L	1408	FO	88022020	201600	001100	502	G C=210,B=39
WDJDK	GH 7-233	37	14.3	0425465	+165139	L	3	33108	L		BO	88031721	213400	003500	504	G C=213,B=55
WDJDK	GH 7-233	37	14.3	0425465	+165139	L	1	12875	L		BO	88031801	015300	005000	503	G C=237,B=42
JC164	V830 TAU	58	12.45	0430110	+242759	E	9	02023	2	179	SO	88011207	075000	004000		V FOR SWP32708
PMJNK	V830 TAU	46	12.0	0430110	+242758	L	3	32708	L	179	SO	88011215	153500	039000	379	G E=147,C=186,B=155
PMJNK	V830 TAU	46	12.0	0430110	+242758	L	1	12850	L	164	SO	88031412	124100	024000	347	G E=205,C=115,B=88
AGJBP	3C 120	84		0430315	+051501	L	3	32760	L		BO	88012018	185300	015000	334	G E=113,C=84,B=51
AGJBP	3C 120	84	14.5	0430315	+051501	L	1	12536	L		BO	88012021	213000	008000	333	G E=147,C=112,B=50
USSBS	HD 29305	36	3.26	0432549	-550851	H	3	32900	L	1043	FU	88021114	144700	000104	502	G C=190,B=35
USSBS	HD 29305	36	3.26	0432549	-550851	H	1	12647	L	1042	FU	88021123	234200	000043	503	G C=227,B=42
USSBS	HD 29305	36	3.26	0432549	-550851	H	3	32901	L	1050	FU	88021123	234600	000300	04	G B=58
JC166	HD29139	47	01.18	0433028	+162438	H	1	12547	L	8712	FU	88012205	054316	010000	571	V R.P.=5,-212
JC166	HD29139	47	01.25	0433028	+162438	E	9	02028	2	8197	FU	88012207	074300	016000		V FES FOR SWP32764
LSJTA	HD 29139	47	0.8	0433029	+162439	H	3	32761	L	8244	FU	88012023	233100	012000	43	G E=147,B=44
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12537	L			88012102	020500	000200	342	G E=174,C=77,B=37
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12538	L	8732	FU	88012102	024400	000200	343	G E=173,C=79,B=41
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12539	L	9184	FU	88012103	032300	000530	304	G C=102,B=60
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12540	L	9136	FU	88012104	042200	000530	303	G C=81,B=43
LSJTA	HD 29139	47	0.8	0433029	+162439	H	9	02025	2			88012106	063800	000240		G
LSJTA	HD 29139	47	0.8	0433029	+162439	H	3	32762	L	8838	FU	88012107	074600	080000	309	G C=226,B=161
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12542	L	9034	FU	88012121	212300	003730	403	G C=176,B=45
LSJTA	HD 29139	47	0.8	0433029	+162439	H	3	32763	L			88012122	222200	012000	33	G E=143,B=44
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12544	L	9016	FU	88012202	023400	001500	309	G C=204,B=137
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12545	L	8828	FU	88012203	032700	001500	309	G C=199,B=135
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12546	L	8751	FU	88012204	042400	003730	407	G C=210,B=82
LSJTA	HD 29139	47	0.8	0433029	+162439	H	9	02027	2			88012205	053300	000240		G
LSJTA	HD 29139	47	0.8	0433029	+162439	H	3	32764	L	8197	FU	88012207	075500	080000	39	G E=250,B=162
LSJTA	HD 29139	47	0.8	0433029	+162439	H	1	12548	L	8392	FU	88012221	214100	003730	403	G C=180,B=42
LSJTA	T FLOOD	99		0433029	+162439	H	3	32765	L			88012222	220600	000008	09	G B=150
JC166	HD29139	47	01.13	0433030	+162438	H	1	12541	L	9040	FU	88012105	050534	013000	785	V RP -37,-204
JC166	HD29139	47	99.99	0433030	+162438	E	9	02026	2	8838	FU	88012107	075000	004000		V SWP32762
JC126	HD29712	49	04.34	0436104	-621032	H	1	12837	L	531	FU	88031104	043130	037600	154	V
ICJJH	SAO 94102	25	9.3	0442529	+191131	L	3	33015	L	454	FO	88030111	114500	003500	500	G C=186,B=17
ICJJH	SAO 94102	25	9.3	0442529	+191131	L	1	12773	L	534	FO	88030112	122800	001400	502	G C=235,B=36
ICJJH	SAO 94113	25	9.7	0443266	+190656	L	3	33016	L	332	FO	88030113	132800	008000	01	G B=26
ICJJH	SAO 94113	25	9.7	0443267	+190657	L	1	12774	L	424	FO	88030114	141500	001600	02	G B=37
ICJJH	SAO 94118	25	9.1	0443592	+185929	L	3	33020	L	579	FO	88030122	222800	000300	300	G C=65,B=18
ICJJH	SAO 94118	25	9.1	0443592	+185929	L	1	12779	L	594	FO	88030122	223700	001100	02	G B=40
ICJJH	SAO 94118	25	9.1	0443592	+185929	L	3	33021	L	604	FO	88030123	232600	000900	400	G C=143,B=20

Vilspa Data Base 16-NOV-88 Page 88

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC106	DR TAU	58	11.44	0444120	+165318	L	1	12011	L	441	SO	87110412	123952	004500	601	V
LDJDB	HD 30652	41	3.2	0447074	+065232	L	1	12506	L	1017	FU	88011623	234100	000007	02	G B=33
PMJNK	GM AUR	58	12.0	0452001	+301711	L	1	12478	L	176	SO	88011222	223300	002500	343	G E=142,C=63,B=42
PMJNK	GM AUR	58	12.0	0452001	+301711	L	1	12851	L	156	SO	88031417	173500	007500	304	G C=108,B=55
TTJFW	N 37	46	10.8	0452254	+301334	L	1	12557	L	116	FO	88012401	011800	006000	09	G B=220
WDJFW	0453-296	37	14.6	0453386	-293343	L	1	11987	L		BO	87110103	034900	009000	304	G C=148,B=51
WDJFW	0453-296	37	14.6	0453387	-293343	L	3	32203	L		BO	87110105	052600	008000	305	G C=115,B=62
OD37Y	HD 32068	39	3.8	0458586	+410017	H	3	32744	L	671	FU	88011804	041700	000600	304	G C=150,B=59
OD37Y	HD 32068	39	3.8	0458586	+410017	H	1	12520	L	677	FU	88011804	043100	000430	404	G C=175,B=60
OD37Y	HD 32068	39	3.8	0458586	+410017	H	3	32745	L	713	FU	88011805	050400	001200	503	G C=200,B=45
OD37Y	HD 32068	39	3.8	0458586	+410017	H	1	12521	L	717	FU	88011805	054300	000500	403	G C=165,B=42
OD37Y	HD 32068	39	3.8	0458586	+410017	H	3	32746	S	685	FU	88011806	061500	003000	503	G C=220,B=43
JC140	HD 32068	47	04.08	0458590	+410030	H	3	32918	L	672	FU	88021408	080645	001500	501	V
JC140	HD 32068	47	04.07	0458590	+410030	H	1	12664	L	679	FU	88021408	083324	001000	672	V
JC140	HD 32068	47	04.06	0458590	+410030	H	3	32919	L	683	FU	88021409	090447	001500	501	V
JC140	HD 32068	47	04.06	0458590	+410030	H	1	12665	L	683	FU	88021409	093633	001000	672	V
JC140	HD 32068	47	04.06	0458590	+410030	H	3	32920	L	683	FU	88021410	100733	002000	702	V
JC140	HD 32068	47	04.06	0458590	+410030	H	1	12666	L	683	FU	88021410	103932	001000	672	V
CVJJP	X 0459+247	59	16.5	0459260	+244208	L	3	32777	L		BO	88012416	160700	018000	03	G B=50
BEJTS	HD 32343	26	5.1	0501472	+585418	H	3	32558	L	21517	FO	87121902	020200	000415	503	G C=227,B=43
BEJTS	HD 32343	26	5.1	0501472	+585418	H	1	12309	L	21729	FO	87121902	021100	000245	504	G C=230,B=51
WDJFW	0501-289	17	13.6	0501568	-285838	L	1	11988	L	54	SO	87110107	071700	000700	309	G C=184,B=110
USSBS	HD 33111	32	2.79	0505230	-050900	H	1	12230	L	1537	FU	87120502	023700	000400	04	G B=59
USSBS	HD 33111	32	2.79	0505230	-050900	H	3	32465	L	1537	FU	87120502	025400	003600	X09	G C=5X,B=137
USSBS	HD 33111	32	2.79	0505230	-050900	H	1	12231	L	1546	FU	87120503	034000	000200	503	G C=212,B=45
JE063	NGC1831	83	13.27	0506119	-645859	L	1	12216	L	86	SO	87120215	150724	010000	303	V
JA064	NGC 1831	83	13.09	0506120	-645900	L	3	32351	L	101	SO	87111716	160601	016100	302	V
HSJGP	HD 33328	26	4.2	050644	-084859	L	1	12017	L	533	FU	87110510	101400	000001	502	G C=187,B=35
HSJGP	HD 33328	26	4.2	050644	-084859	H	3	32234	L	523	FU	87110510	103600	000050	502	G C=210,B=38
HSJGP	HD 33328	26	4.2	0506448	-084858	H	3	32254	L	537	FU	87110608	080500	000050	402	G C=190,B=40
HSJGP	HD 33328	26	4.2	0506448	-084858	L	3	32255	L	542	FU	87110608	084000	000001	400	G C=138,B=18
HSJGP	HD 33328	26	4.2	0506448	-084858	L	1	12028	L	546	FU	87110608	084500	000001	402	G C=160,B=35
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32220	L	524	FU	87110505	051900	000048	502	G C=205,B=37
HSJGP	HD 33328	26	4.2	0506449	-084859	L	1	12015	L	531	FU	87110505	055100	000001	402	G C=178,B=35
HSJGP	HD 33328	26	4.2	0506449	-084859	L	3	32229	L	522	FU	87110505	055600	000001	400	G C=145,B=18
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32232	L	527	FU	87110509	091300	000050	502	G C=205,B=38
HSJGP	NULL 99			0506449	-084859	H	3	32233				87110509	094900	000000	00	G B=16
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32242	L	528	FU	87110520	200800	000050	502	G C=205,B=40
HSJGP	HD 33328	26	4.2	0506449	-084859	L	3	32243	L	528	FU	87110520	203700	000001	400	G C=142,B=12
HSJGP	HD 33328	26	4.2	0506449	-084859	L	1	12022	L	528	FU	87110521	210800	000001	402	G C=185,B=35
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32246	L	521	FU	87110600	000900	000050	502	G C=205,B=39
HSJGP	HD 33328	26	4.2	0506449	-084859	L	3	32247	L	525	FU	87110600	004200	000001	400	G C=142,B=12
HSJGP	HD 33328	26	4.2	0506449	-084859	L	1	12024	L	541	FU	87110601	011200	000001	402	G C=155,B=38
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32250	L	539	FU	87110604	040300	000050	502	G C=210,B=36
HSJGP	HD 33328	26	4.2	0506449	-084859	L	3	32251	L	534	FU	87110604	044100	000001	400	G C=145,B=18

Vilspa Data Base 16-NOV-88 Page 89

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
HSJGP	HD 33328	26	4.2	0506449	-084859	L	1	12026	L	533	FU	87110604	044600	000001	402	G C=170,B=35
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32268	L	508	FU	87110710	102400	000050	503	G C=225,B=41
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32508	L	479	FU	87121204	042600	000048	502	G C=195,B=38
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32704	L	500	FU	88011201	015300	000050	503	G C=205,B=42
HSJGP	HD 33328	26	4.2	0506449	-084859	H	3	32875	L	484	FU	88020623	232200	000050	502	G C=200,B=39
JA195	HD33328	26	04.37	0506450	-084900	L	3	32235	L	518	FU	87110511	112031	000001	600	V
PRJCG	HD 33328	26	4.3	0506450	-084900	H	3	32316	L	516	FU	87111403	034600	000048	502	G C=200,B=39
JA195	HD33328	26	04.42	0506450	-084900	H	3	32238	L	498	FU	87110514	145303	000050	500	V
PRJCG	HD 33328	26	4.3	0506450	-084900	H	3	32678	L	500	FU	88010702	023200	000048	402	G C=178,B=37
JA195	HD33328	26	04.40	0506450	-084900	L	3	32239	L	503	FU	87110515	152731	000000	400	V
PRJCG	HD 33328	26	4.3	0506450	-084900	H	3	32924	L	461	FU	88021421	211500	000048	502	G C=195,B=36
JA194	HD 33328	26	04.43	0506450	-084900	H	3	32400	L	493	FU	87112613	131912	000055	500	V
JA195	HD33328	26	04.42	0506451	-084900	L	1	12019	L	498	FU	87110514	145730	000000	401	V
JA195	HD33328	26	04.33	0506451	-084900	H	3	32258	L	540	FU	87110611	115546	000050	500	V
JA195	HD 33328	26	04.36	0506451	-084900	L	1	12030	L	525	FU	87110613	130151	000000	500	V
JA195	HD 33328	26	04.36	0506451	-084900	L	3	32259	L	523	FU	87110613	130640	000000	400	V
JA195	HD 33328	26	04.33	0506451	-084900	H	3	32262	L	537	FU	87110616	163127	000050	500	V
JA195	HD 33328	26	04.29	0506451	-084900	L	1	12032	L	556	FU	87110616	163606	000000	401	V PREAD
JA195	HD 33328	26	04.36	0506451	-084900	L	3	32263	L	524	FU	87110617	174928	000000	400	V PREAD
JA194	HD33328	26	04.49	0506451	-084900	H	3	33120	L	466	FU	88032005	050939	000048	501	V
JQ045	LMC N25	70	16.00	0509263	-675104	L	3	33099	L		BO	88031608	082627	014500	111	V PREAD
CCJFF	HD 33798	47	7.0	0511307	+470655	L	3	32274	L	3880	FO	87110819	194600	014000	333	G E=71,C=80,B=45
JM015	HD34085	22	00.37	0512080	-081528	H	1	12484	S	16422	FU	88011307	075602	000004	402	V
HSJEF	HD 34085	25	0.1	0512080	-081529	L	1	12824	L	15336	FU	88030720	204000	000017	02	G B=39
JM015	HD34085	22	00.17	0512080	-081528	H	3	32715	S	18832	FU	88011308	085123	000011	301	V
JM015	HD34085	22	00.24	0512080	-081528	H	3	32716	S	17954	FU	88011309	091802	000055	401	V
JM015	HD34085	22	00.20	0512080	-081528	H	1	12485	S	18473	FU	88011309	094541	000006	301	V
JM015	HD34085	22	00.45	0512080	-081528	H	1	12491	L	15496	FU	88011407	074358	000002	401	V
JM015	HD34085	22	00.44	0512080	-081528	H	3	32723	L	15607	FU	88011408	083801	000008	700	V
JM015	HD34085	22	00.45	0512080	-081528	H	1	12492	L	15500	FU	88011409	090831	000003	601	V
JM015	HD34085	22	00.44	0512080	-081528	H	3	32724	L	15603	FU	88011409	090422	000015	800	V
JM015	HD34085	22	00.43	0512080	-081528	H	1	12495	L	15707	FU	88011414	143055	000003	601	V
JM015	HD34085	22	00.43	0512080	-081528	H	3	32727	L	15712	FU	88011414	143708	000006	600	V
JM015	HD 34085	25	00.45	0512080	-081528	H	3	32734	L	15472	FU	88011607	073254	000007	600	V
JM015	HD 34085	25	00.42	0512080	-081528	H	1	12501	L	15843	FU	88011607	072931	000003	603	V
JM015	HD34085	25	00.41	0512080	-081528	H	3	32735	L	15988	FU	88011608	082924	000017	701	V
JM015	HD 34085	25	00.45	0512080	-081528	H	1	12502	L	15476	FU	88011608	083305	000003	603	V
JM015	HD 34085	25	00.43	0512080	-081528	H	1	12504	L	15738	FU	88011614	144021	000003	603	V
JM015	HD 34085	25	00.42	0512080	-081528	H	3	32740	L	15850	FU	88011614	143537	000007	601	V
AGJBP	AKN 120	84		0513378	-001214	L	3	32759	L	58	SO	88012016	161000	008000	342	G E=162,C=89,B=34
AGJBP	AKN 120	84		0513378	-001214	L	1	12535	L	54	SO	88012017	173700	003600	343	G E=173,C=130,B=41
JQ043	AKN120	84	13.90	0513379	-001216	L	3	32903	L	49	SO	88021204	045851	015500	351	V PREAD
IBJBB	HD 242257	39	10.0	0514290	+340225	L	3	32754	L	307	FO	88011923	232100	004000	301	G C=113,B=22
IBJBB	HD 242257	39	10.0	0514290	+340225	L	1	12531	L	312	FO	88012000	001000	001500	502	G C=246,B=38
PHCAL	HD34816	20	04.35	0517162	-131337	L	1	12211	L	527	FU	87120111	112114	000000	503	V

Vilspa Data Base 16-NOV-88 Page 90

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	HD 34816	20	4.3	0517162	-131337	H	3	32364	L	480	FU	87112007	072700	000022	402	G C=174,B=34
PHCAL	HD34816	20	04.48	0517162	-131337	L	3	32438	L	471	FU	87120111	112623	000000	501	V
PHCAL	HD 34816	20	4.3	0517162	-131337	H	1	12134	L	484	FU	87112007	073200	000022	503	G C=205,B=45
PHCAL	HD34816	20	04.43	0517162	-131337	L	1	12212	L	492	FU	87120112	121224	000001	703	V
PHCAL	HD 34816	20	4.3	0517162	-131337	H	2	18157	L	489	FU	87123101	011600	000035	502	G C=185,B=34
PHCAL	HD34816	20	04.28	0517162	-131337	L	1	12413	L	563	FU	88010208	080227	000000	503	V
PHCAL	HD 34816	20	4.3	0517162	-131337	H	1	12403	L	491	FU	87123108	082100	000022	503	G C=207,B=43
PHCAL	HD34816	20	04.44	0517162	-131337	L	1	12414	L	487	FU	88010208	083640	000000	503	V
PHCAL	HD 34816	20	4.3	0517162	-131337	H	1	12479	L	503	FU	88011223	235200	000022	403	G C=190,B=42
PHCAL	HD34816	20	04.43	0517162	-131337	L	1	12415	L	491	FU	88010209	090722	000000	503	V
PHCAL	HD 34816	20	4.3	0517162	-131337	H	3	32709	L	501	FU	88011223	235700	000022	402	G C=165,B=32
PHCAL	HD34816	20	04.43	0517162	-131337	L	1	12416	L	494	FU	88010209	093930	000000	503	V
PHCAL	HD34816	20	04.43	0517162	-131337	L	1	12417	L	491	FU	88010210	101516	000001	703	V
PHCAL	HD34816	20	04.45	0517162	-131337	L	1	12418	L	482	FU	88010210	104821	000001	703	V
PHCAL	HD34816	20	04.44	0517162	-131337	L	1	12419	L	488	FU	88010211	112531	000001	703	V
PHCAL	HD34816	20	04.42	0517162	-131337	L	1	12420	L	495	FU	88010211	115532	000001	703	V
IA173	HD34921	20	07.78	0519107	+373744	L	3	33111	S	2882	FO	88031903	034440	000035	401	V
IA173	HD34921	20	07.78	0519107	+373744	L	3	33111	L	2882	FO	88031903	033310	000035	501	V
IA173	HD34921	20	07.78	0519107	+373744	L	1	12884	S	2883	FO	88031904	041628	000015	302	V
IA173	HD34921	20	07.78	0519107	+373744	L	1	12884	L	2883	FO	88031904	041217	000015	502	V
HCJTA	HD 35155	66	6.77	0519547	-084246	L	1	12082	L	5717	FO	87111310	103500	001500	3X2	G E=1.5X,C=115,B=38
HCJTA	HD 35155	66	6.8	0519548	-084247	L	3	32352	L	5040	FO	87111719	193800	006300	352	G E=230,C=92,B=35
HCJTA	HD 35155	66	6.8	0519548	-084247	L	1	12131	L	4933	FO	87112003	035800	001000	3X2	G E=1X,C=88,B=35
HCJTA	HD 35155	66	6.8	0519548	-084247	L	3	32376	L	4973	FO	87112204	043600	003500	331	G E=81,C=60,B=26
HCJTA	HD 35155	66	6.8	0519548	-084247	L	3	32378	L	5120	FO	87112206	063000	002500	335	G E=107,C=105,B=70
HCJTA	HD 35155	66	6.8	0519548	-084247	L	3	32551	L	5766	FO	87121717	175500	003500	301	G D=152,C=90,B=24
JQ093	PKS 0521-36	87	15	0521128	-363017	L	3	32684	L		BO	88010716	160700	030000	335	G E=109,C=100,B=70
GCJBA	NGC 1904	83	16.8	0522076	-243410	L	3	33152	L	151	FO	88032412	121400	034500	409	G C=218,B=108
GCJBA	NGC 1904	83	16.8	0522076	-243410	9	02049	2				88032418	180800	000020	G	
GCJBA	NGC 1904	83	16.8	0522076	-243420	L	3	33153	L	153	FO	88032500	003900	013000	303	G C=79,B=45
GCJBA	NGC 1904	83	16.8	0522078	-243410	L	1	12918	L	151	FO	88032421	214800	015000	409	G C=250,B=123
JI153	N44C-STAR2	13	14.30	0522230	-680117	L	3	32510	L		BO	87121210	100945	003500	300	V
JI153	N44C-STAR2	13	14.30	0522231	-680118	L	1	12264	L		BO	87121210	105147	003500	402	V
JI153	N44C-STAR2	13	14.30	0522237	-680116	L	1	12256	L		BO	87121110	100303	006000	502	V
JI153	N44C-STAR2	13	14.30	0522237	-680116	L	3	32504	L		BO	87121111	111041	004000	400	V
JE179	N 132 D	75		0525301	-694045	D	9	02039	2			88021504	045500	004000		V
SRJWB	N 132D	75		0525301	-694046	L	1	12671	L			88021512	124100	073000	339	G E=195,C=198,B=144
SRJWB	N 132D	75		0525301	-694046	L	3	32929	S		BO	88021512	125100	066500	309	G C=140,B=113
OD28Y	HD 36389	49	4.4	0529167	+183331	L	3	32315	L	494	FU	87111319	195300	039000	339	G E=143,C=137,B=105
OD28Y	HD 36389	49	4.4	0529167	+183331	L	1	12085	L	487	FU	87111402	022900	000200	232	G E=90,C=51,B=35
ISJGS	HD 36779	20	6.2	0531313	-010407	H	3	32291	L	8872	FO	87111106	065900	000530	502	G C=200,B=40
ISJGS	HD 36827	20	6.7	0531445	-025451	H	3	32211	L	5541	FO	87110203	034600	000830	402	G C=185,B=35
TTJFW	HD 245059	46	9.8	0531490	+100505	L	3	32769	L	252	FO	88012316	160700	044000	339	G E=169,C=180,B=142
TTJFW	HD 245059	46	9.8	0531490	+100505	L	1	12556	L	276	FO	88012323	233500	005000	56	G E=249,B=75
NEJRD	NGC 1976-01	72		0532377	-052430	L	3	32361	L		BO	87111910	100700	001700	300	G C=100,B=17

Vilspa Data Base 16-NOV-88 Page 91

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
NEJRD	NGC 1976-01	72		0532377	-052430	L	1	12129	L		BO	87111910	103800	001500	302	G C=100,B=36
ISJGS	HD 36954	21	7.0	0532399	-004501	H	3	32294	L	4561	FO	87111109	092900	001400	502	G C=195,B=40
NEJRD	NGC 1976-03	72		0532489	-052430	L	3	32360	L		BO	87111908	085100	001500	X51	G E=182,C=1.1X,B=23
NEJRD	NGC 1976-03	72		0532489	-052430	L	1	12128	L		BO	87111909	091400	001500	502	G C=200,B=40
NEJRD	NGC 1976-10	72		0532588	-052800	L	1	12114	L		BO	87111706	064300	001000	309	G C=175,B=115
NEJRD	NGC 1976-10	72		0532588	-052800	L	3	32348	L			87111707	070500	002000	309	G C=220,B=135
NEJRD	NGC 1976-10	72		0532588	-052800	L	1	12115	L			87111707	073800	002000	X09	G C=1.4X,B=195
ISJGS	HD 37055	21	6.4	0533059	-031702	H	3	32216	L	7298	FO	87110209	094700	001000	506	G C=241,B=73
PHCAL	NULL	99		0533404	-011355		2	18156				87123100	003000	000000	01	G B=22,SAFETY READ
HSJEF	HD 37128	23	1.7	0533405	-011356	L	1	12825	L	5032	FU	88030721	214100	000017	502	G C=240,B=35
ISJGS	HD 37173	21	7.8	0533591	-020050	H	1	11993	L	1909	FO	87110204	041300	002300	403	G C=193,B=45
ISJGS	HD 37173	21	7.8	0533591	-020050	H	3	32212	L	1894	FO	87110204	045000	005700	503	G C=225,B=47
JM091	LMC N60	70	17.00	0534059	-675459	L	3	32388	L		BO	87112412	120919	018000	231	V
ISJGS	HD 37272	21	7.9	0534427	-014149	H	1	11994	L	1898	FO	87110206	060500	002500	503	G C=211,B=50
ISJGS	HD 37272	21	7.9	0534427	-014149	H	3	32213	L	2026	FO	87110206	063600	002500	406	G C=186,B=72
ISJGS	HD 37272	21	7.9	0534427	-014149	H	3	32290	L	1944	FO	87111105	052700	004600	503	G C=205,B=43
ISJGS	HD 37332	21	7.6	0535130	-004824	H	3	32289	L	2493	FO	87111103	035900	003300	503	G C=195,B=42
ISJGS	HD 37397	20	6.8	0535414	-011150	H	3	32217	L	4997	FO	87110210	103900	001200	503	G C=217,B=42
HI177	A0538-66	59	15.00	0535428	-665340	L	3	32904	L		BO	88021208	085412	005000	330	V EXP. IN TWO SLOTS 36
HI177	A0538-66	59	15.00	0535428	-665340	L	1	12649	L		BO	88021210	101209	004700	331	V
HI177	A0538-66	59	13.50	0535428	-665340	L	3	32941	L		BO	88021909	090344	006000	532	V
HI177	A0538-66	59	13.50	0535428	-665340	L	1	12695	L		BO	88021910	101405	005000	502	V
HI177	A0538-66	59	15.00	0535428	-665340	L	3	32966	L		BO	88022308	084153	009500	401	V
HI177	A0538-66	59	13.50	0535428	-665340	L	1	12727	L		BO	88022310	102403	004000	302	V
OBJEF	SK-69203	23	12.3	0535469	-691600	L	3	32633		164	SO	87122902	020700	003000	400	G C=139,B=20
OBJEF	SK-69203	23	12.3	0535469	-691600	L	1	12392	L	167	SO	87122902	024600	002700	403	G C=161,B=42
OBJEF	SK-69203	23	12.3	0535469	-691600	L	1	12399	L	181	SO	87123002	020800	002600	502	G C=197,B=40
OBJEF	SK-69203	23	12.3	0535469	-691600	L	3	32640	L	164	SO	87123002	025000	005000	501	G C=200,B=21
GHJAS	SK-69203	23	12.3	0535469	-691552	L	3	32988	L	142	SO	88022618	183800	000500	201	G C=43,B=28
GHJAS	SK-69203	23	12.3	0535469	-691552	L	1	12749	L	153	SO	88022618	185100	000500	302	G C=114,B=40
GHJAS	SK-69203	23	12.3	0535469	-691552	L	3	33116	L	152	SO	88031920	202700	005000	504	G C=221,B=53
JI051	HDE245770	59	09.49	0535480	+261717	L	1	12513	L	626	FO	88011709	090240	000300	503	V
JI051	HDE245770	59	09.49	0535480	+261717	H	3	32741	L	625	FO	88011709	091212	033500	333	V
JI051	HDE 245770	59	09.45	0535480	+261718	L	1	12522	L	650	FO	88011807	073537	000300	501	V
JI051	HDE 245770	59	09.43	0535480	+261718	H	3	32747	L	658	FO	88011808	081049	040000	333	V
SNJRK	SN 1987A	56	6.9	053550	-691759	L	1	12724	L	6589	FO	88022301	014300	000300	503	G C=200,B=41
JETOO	SN1987A	56	05.93	0535501	-691758	L	1	12083	L	13825	FO	87111314	140707	000245	502	V
SNJRK	SN 1987A	56	5.5	0535501	-691757	L	1	11997	L	15630	FO	87110220	201400	000300	502	G C=205,B=35
JETOO	SN 1987A	56	07.13	0535501	-691758	L	1	12869	L	5098	FO	88031704	040105	000300	501	V
SNJRK	SN 1987A	56	5.5	0535501	-691757	L	3	32219	L	15614	FO	87110220	202500	024000	X05	G C=2X,B=67
JETOO	SN 1987A	56	07.13	0535501	-691758	L	3	33104	L	5107	FO	88031704	040902	007000	531	V
SNJRK	SN 1987A	56	5.5	0535501	-691757	L	1	11998	L	14952	FO	87110222	223300	001200	X02	G C=3.5X,B=37
JETOO	SN 1987A	56	07.14	0535501	-691758	L	1	12870	L	5031	FO	88031705	052824	003000	701	V
SNJRK	SN 1987A	56	5.5	0535501	-691757	L	3	32220	L	15525	FO	87110301	012800	008000	500	G C=206,B=17
JETOO	SN 1987A	56	07.09	0535501	-691758	L	3	33105	L	5260	FO	88031706	062142	024000	752	V

Vilspa Data Base 16-NOV-88 Page 92

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SNJRK	SN 1987A	61	5.4	0535501	-691759	L	1	12045	L	14516	FO	87110908	080400	000300	502	G C=205,B=39
JETOD	SN 1987A	56	07.12	0535501	-691758	L	1	12871	L	5135	FO	88031710	102617	002500	701	V PREAD
PHCAL	T FLOOD	99		0535501	-691759	L	1	12046	S			87110908	083900	000025	?9	G E=10X,B=107
PHCAL	WAVECAL	98		0535501	-691759	L	1	12046	S			87110908	084100	000001	?9	G E=10X,B=107
PHCAL	T FLOOD	99		0535501	-691759	H	1	12047	S			87110909	091300	000025	?9	G E=50X,B=107
PHCAL	WAVECAL	98		0535501	-691759	H	1	12047	S			87110909	091500	000016	?9	G E=50X,B=107
PHCAL	T FLOOD	99		0535501	-691759	L	3	32277	S			87110909	093100	000005	?9	G E=20X,B=102
PHCAL	WAVECAL	98		0535501	-691759	L	3	32277	S			87110909	093300	000002	?9	G E=20X,B=102
PHCAL	T FLOOD	99		0535501	-691759	H	3	32278	S			87110909	095600	000005	?9	G E=60X,B=123
PHCAL	WAVECAL	98		0535501	-691759	H	3	32278	S			87110909	095800	000200	?9	G E=60X,B=123
SNJRK	SN 1987A	56	5.4	0535501	-691758	L	1	12063	L	15261	FO	87111110	103600	001200	X02	G C=4X,B=39
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12108	L	13979	FO	87111610	102900	000300	502	G C=226,B=38
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12146	L	13556	FO	87112207	075800	000300	503	G C=239,B=41
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12167	L	13526	FO	87112522	221100	000250	402	G C=180,B=36
SNJRK	SN 1987A	56	5.9	0535501	-691759	H	3	32394	L	12856	FO	87112522	222300	045000	309	G C=180,B=138
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12168	L	13782	FO	87112600	003000	001000	X02	G C=3X,B=38
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	3	32395	L	13563	FO	87112601	010700	009000	543	G E=146,C=235,B=46
SNJRK	SN 1987A	56	4.3	0535501	-691758	H	1	12175	L	13160	FO	87112700	001800	015200	405	G C=175,B=68
SNJRK	SN 1987A	56	6.04	0535501	-691759	L	1	12235	L	12385	FO	87120603	035200	000300	502	G C=198,B=35
SNJRK	SN 1987A	56	6.04	0535501	-691759	L	1	12236	L	12360	FO	87120604	043900	001200	03	G B=41
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12293	L	11327	FO	87121608	082600	000300	502	G C=204,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12298	L	11327	FO	87121706	060000	001200	06	G B=78
PHCAL	T FLOOD	99		0535501	-691759	L	1	12299	L			87121706	064400	000025	09	G B=101
PHCAL	WAVECAL	98		0535501	-691759	L	1	12299	L			87121706	064600	000001	09	G B=101
PHCAL	T FLOOD	99		0535501	-691759	H	1	12300	L			87121707	071400	000025	09	G B=106
PHCAL	WAVECAL	98		0535501	-691759	H	1	12300	L			87121707	071600	000016	09	G B=106
PHCAL	T FLOOD	99		0535501	-691759	L	3	32548	S			87121707	072800	000005	08	G B=97
PHCAL	WAVECAL	98		0535501	-691759	L	3	32548	S			87121707	073000	000002	08	G B=97
PHCAL	T FLOOD	99		0535501	-691759	H	3	32549	S			87121707	075700	000005	09	G B=121
PHCAL	WAVECAL	98		0535501	-691759	H	3	32549	S			87121707	075900	000200	09	G B=121
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12372	L	10201	FO	87122518	181800	000300	502	G C=220,B=38
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	32619	L	10260	FO	87122518	182900	024000	06	G B=73
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12373	L	10233	FO	87122522	223700	001200	02	G B=39
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	32620	L	10135	FO	87122523	230800	006000	502	G C=230,B=40
SNJRK	SN 1987A	56	5.8	0535501	-691758	L	1	12410	L	10016	FO	88010200	001500	000300	502	G C=222,B=35
SNJRK	SN 1987A	56	5.8	0535501	-691758	L	1	12411	L	10112	FO	88010200	005800	001200	02	G B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12466	L	8966	FO	88010922	220900	000300	502	G C=208,B=35
SNJRK	SN 1987A	56	6.1	0535501	-691758	L	1	12475	L	10005	FO	88011202	025400	001200	03	G B=50
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12525	L	9280	FO	88011902	024300	001200	09	G B=106
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12526	L	9392	FO	88011903	033000	000300	433	G E=120,C=178,B=46
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12558	L	8572	FO	88012403	033600	000300	533	G E=130,C=203,B=44
SNJRK	SN 1987A	56	5.9	0535501	-691759	L	1	12559	L	8649	FO	88012404	041500	001200	04	G B=56
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12576	L	7831	FO	88012716	162300	000300	502	G C=210,B=35
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	3	32797	L	7839	FO	88012716	163300	021000	54	G E=235,B=58
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12577	L	8130	FO	88012720	201700	006000	04	G B=53

Vilspa Data Base 16-NOV-88 Page 93

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	3	32798	L	8131	FO	88012720	204900	007000	501	G C=190,B=28
SNJRK	SN 1987A	56	6.5	0535501	-691759	H	1	12622	L	7499	FO	88020712	123200	021500	405	G C=194,B=70
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12623	L	7314	FO	88020718	182600	000300		G E=130,C=197,C=35
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	3	32879	L	7739	FO	88020718	183500	007500	532	G E=111,C=209,B=40
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12624	L	7773	FO	88020719	191700	001200	02	G B=39
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12677	L	6671	FO	88021623	234100	000300	533	G E=117,C=194,B=42
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12678	L	7159	FO	88021701	013500	001200	03	G B=42
SNJRK	SN 1987A	56	6.5	0535501	-691759	H	3	32983	L	6108	O	88022513	130300	054000	309	G C=180,B=115
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	3	32984	L	6207	FO	88022515	151700	006000	434	G E=112,C=200,B=60
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12734	L	6047	O	88022516	162500	001200	X04	G C=3X,B=58
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	3	32985	L	5982	FO	88022516	165600	006000	438	G E=157,C=234,B=100
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12735	L	5985	FO	88022518	180200	000300	502	G C=220,B=40
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12784	L	5653	FO	88030218	184600	000300	502	G C=205,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	12789	L	5858	FO	88030304	043600	000300	502	G C=200,B=36
SNJRK	SN 1987A	56	6.9	0535501	-691759	L	1	12790	L	5830	FO	88030305	051600	001200	X02	G C=3X,B=38
SNJRK	SN 1987A	56	5.8	0535501	-691759	L	3	33035	L	6077	FO	88030412	123300	024000	03	G B=46
SNJRK	SN 1987A	56	5.8	0535501	-691759	L	1	12797	L	6402	FO	88030416	164100	006000	34	G E=122,B=54
SNJRK	SN 1987A	56	5.8	0535501	-691759	L	3	33036	L	6040	FO	88030417	175000	004000	302	G C=130,B=32
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12839	L	5438	FO	88031119	193300	000300	532	G E=116,C=190,B=32
SNJRK	SN 1987A	56	6.5	0535501	-691759	L	1	12853	L	5227	FO	88031421	215000	000300	532	G E=122,C=200,B=33
SNJRK	SN 1987A	56	7.0	0535501	-691759	L	1	12913	L	4957	FO	88032319	195200	001200	02	G B=40
SNJRK	SN 1987A	56	6.84	0535501	-691759	L	3	33175	L	4799	FO	88032911	115900	021000	04	G B=6
SNJRK	SN 1987A	56	6.84	0535501	-691759	L	1	12942	L	4730	FO	88032914	143900	000300	402	G C=175,B=33
SNJRK	SN 1987A	56	6.84	0535501	-691759	L	1	12943	L	5011	FO	88032915	155400	001200	04	G B=53
SNJRK	SN 1987A	56	6.84	0535501	-691759	L	3	33176	L	4916		88032916	162500	009000	43	G E=146,B=45
SNJRK	SN 1987A	56	6.8	0535501	-691759	L	1	12944	L	4838	FO	88032918	180200	003000	04	G B=57
JETOO	SN1987A	56	05.77	0535502	-691759	L	1	12020	L	15628	FO	87110517	171716	000300	500	V
SNJRK	SN 1987A	56	4.3	0535502	-691758	L	3	32404	L	13050	FO	87112620	201200	024000	X07	G C=2X,B=82
JETOO	SN1987A	56	05.91	0535502	-691759	L	3	32314	L	14064	FO	87111314	142331	023500	602	V
JETOO	SN1987A	56	05.91	0535502	-691759	L	1	12084	L	14039	FO	87111318	182655	002000	702	V
JETOO	SN 1987A	56		0535502	-691759	D	9	02000	2			87112516	163500	016000		V
JETOO	SN1987A	56	06.10	0535502	-691759	L	1	12203	L	12156	FO	87113013	134542	000245	501	V
JETOO	SN1987A	56	06.17	0535502	-691759	L	3	32532	L	11449	FO	87121609	093838	024000	762	V
JETOO	SN1987A	56	06.14	0535502	-691759	L	1	12294	L	11782	FO	87121610	101614	000230	401	V PREAD
JETOO	SN1987A	56	06.15	0535502	-691759	L	1	12295	L	11636	FO	87121613	132148	001000	702	V
JETOO	SN1987A	56	06.36	0535502	-691759	L	1	12434	L	9831	FO	88010314	144932	000330	551	V PREAD
JETOO	SN1987A	56	06.36	0535502	-691759	L	1	12486	L	9815	FO	88011311	110608	000330	500	V
JETOO	SN1987A	56	06.38	0535502	-691759	L	3	32717	L	9714	FO	88011311	111746	019000	751	V
JETOO	SN1987A	56	06.40	0535502	-691759	L	1	12487	L	9493	FO	88011314	143256	001500	701	V
JETOO	SN1987A	56	06.74	0535502	-691759	L	1	12655	L	7143	FO	88021305	050730	000330	500	V SATELLITE DRIFT. TAR
JETOO	SN1987A	56	06.76	0535502	-691759	L	3	32910	L	7005	FO	88021305	052023	007000	530	V 35 + 35 MIN.
JETOO	SN1987A	56	06.80	0535502	-691759	L	1	12656	L	6769	FO	88021306	060148	000300	500	V
JETOO	SN1987A	56	06.78	0535502	-691759	L	1	12657	L	6902	FO	88021306	065435	002500	701	V
JETOO	SN1987A	56	06.78	0535502	-691759	L	3	32911	L	6905	FO	88021307	072706	021200	651	V
JETOO	SN1987A	56	06.84	0535502	-691759	L	3	32938	L	6568	FO	88021804	044625	018000	751	V

Vilspa Data Base 16-NOV-88 Page 94

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JETOO	SN1987A	56	06.85	0535502	-691759	L	1	12686	L	6522	FO	88021807	072838	000300	501	V
JETOO	SN1987A	56	06.85	0535502	-691759	H	1	12687	L	6525	FO	88021808	082622	015700	402	V
JETOO	SN 1987A	56	06.93	0535502	-691759	L	1	12733	L	6091	FO	88022405	052337	000330	500	V
JETOO	SN1987A	56	06.93	0535502	-691759	E	9	02041	2	6091	FO	88022505	051500	016000		V FES FOR SWP32983
CVJSS	NOVA LMC	55	11.8	0536018	-702315	L	3	33157	L	292	SO	88032520	201100	003000	321	G E=40,C=52,B=30
CVJSS	NOVA LMC	55	11.8	0536018	-702315	L	1	12922	L	320	SO	88032520	205100	003000	353	G E=209,C=100,B=41
CVJSS	NOVA LMC	55	11.8	0536018	-702315	L	3	33158	L	294	SO	88032521	215900	005000	322	G E=57,C=70,B=38
CVJSS	NOVA LMC	55	12.0	0536018	-702314	L	3	33177	L	285	SO	88032919	192500	008000	334	G E=130,C=139,B=57
CVJSS	NOVA LMC	55	12.0	0536018	-702314	L	1	12945	L	281	SO	88032920	202300	003000	03	G B=45
CVJSS	NOVA LMC	55	12.0	0536018	-702314	L	1	12946	L	283	SO	88032921	213700	001500	444	G E=192,C=180,B=58
CVJSS	NOVA LMC	55	12	0536018	-702314	L	3	33185	L	116	SO	88033015	155000	016000	445	G E=216,C=200,B=67
CVJSS	NOVA LMC	55	12	0536018	-702314	L	1	12948	L	173	SO	88033018	183700	001500	442	G E=186,C=150,B=40
JI082	NOV LMC 88	55	11.94	0536019	-702315	L	3	33162	L	280	SO	88032606	061836	003000	201	V
PHCAL	NULL	99	0.0	0536019	-702315	H	3	33187	L			88033110	103400	000000		G B-18
JI082	NOV LMC 88	55	13.41	0536019	-702315	L	1	12924	L	276	SO	88032606	065630	003000	451	V
PHCAL	SKY	07	0.0	0536019	-702315	H	3	33188	L			88033110	105500	029500	06	G B=77
JI082	NOV LMC 88	55	11.94	0536019	-702315	L	3	33163	L	281	SO	88032607	075228	006000	301	V TARGET AT THE REF. P
CVJSS	NOVA LMC	55	12	0536019	-702315	H	1	12956	L	214	SO	88033113	134900	070000	39	G E=250,B=182
JI082	NOV LMC 88	55	99.99	0536019	-702315	E	9	02050	2			88032609	090000	012000		V TARGET AT THE REF. P
JI082	NOV LMC 88	55	11.89	0536019	-702315	L	1	12925	L	294	SO	88032609	090038	010700	771	V
JMTOO	NOVA LMC88	55	12.25	0536019	-702315	D	9	02051	2	214	SO	88033106	060500	016000		V FOR LWP12956
ISJGS	HD 37481	20	6.0	0536118	-063604	H	3	32215	L	10931	FO	87110208	085400	000255	507	G C=238,B=82
GHJAS	SK-69209	11	12.2	0536169	-691352	L	3	33117	L	396	SO	88031922	221300	000400	300	G C=60,B=20
GHJAS	SK-69209	11	12.2	0536169	-691352	L	1	12889	L	397	SO	88031922	222200	000400	303	G C=124,B=45
HSJGP	HD 37490	26	4.5	0536325	+040540	L	1	12027	L	386	FU	87110606	065700	000001	502	G C=190,B=35
HSJGP	HD 37490	26	4.5	0536325	+040540	H	3	32256	L	383	FU	87110609	095900	000200	503	G C=225,B=41
HSJGP	HD 37490	26	4.5	0536325	+040540	L	1	12029	L	381	FU	87110610	103300	000001	502	G C=188,B=35
HSJGP	HD 37490	26	4.52	0536325	+040540	H	3	32690	L	426	FU	88010902	023600	000210	503	G C=225,B=41
JA195	HD37490	26	04.74	0536326	+040541	H	3	32236	L	373	FU	87110512	124715	000200	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32225	L	369	FU	87110410	103700	000200	501	G C=210,B=27
JA195	HD37490	26	04.73	0536326	+040541	L	1	12018	L	375	FU	87110512	125507	000001	501	V
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32226	L	366	FU	87110503	033700	000200	503	G C=220,B=41
JA195	HD37490	26	04.74	0536326	+040541	L	3	32237	L	373	FU	87110514	140340	000001	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	L	3	32227	L	368	FU	87110504	040600	000001	500	G C=190,B=18
JA195	HD37490	26	04.75	0536326	+040541	H	3	32240	L	371	FU	87110516	160943	000200	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	L	1	12014	L	368	FU	87110504	041200	000001	502	G C=208,B=35
JA195	HD37490	26	04.73	0536326	+040541	L	1	12021	L	378	FU	87110518	183714	000001	500	V PARTIAL READ
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32230	L	385	FU	87110507	071200	000200	503	G C=210,B=41
JA195	HD37490	26	04.73	0536326	+040541	L	3	32241	L	378	FU	87110518	184038	000001	500	V PARTIAL READ
HSJGP	HD 37490	26	4.5	0536326	+040541	L	1	12016	L	381	FU	87110508	080000	000001	402	G C=185,B=35
JA195	HD37490	26	04.73	0536326	+040541	L	3	32257	L	375	FU	87110610	105555	000001	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	L	3	32231	L	383	FU	87110508	080500	000001	500	G C=180,B=18
JA195	HD 37490	26	04.75	0536326	+040541	H	3	32260	L	370	FU	87110614	144437	000200	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32244	L	370	FU	87110522	220200	000200	502	G C=220,B=40
JA195	HD 37490	26	04.75	0536326	+040541	L	1	12031	L	371	FU	87110614	145123	000001	501	V

Vilspa Data Base 16-NOV-88 Page 95

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
HSJGP	HD 37490	26	4.5	0536326	+040541	L	3	32245	L	373	FU	87110522	224600	000001	500	G C=185,B=15
JA195	HD37490	26	04.75	0536326	+040541	L	3	32261	L	370	FU	87110615	154529	000001	500	V
HSJGP	HD 37490	26	4.5	0536326	+040541	L	1	12023	L	374	FU	87110523	231700	000001	502	G C=200,B=35
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32248	L	390	FU	87110602	020400	000200	502	G C=205,B=40
HSJGP	HD 37490	26	4.5	0536326	+040541	L	3	32249	L	387	FU	87110602	024000	000001	500	G C=170,B=17
HSJGP	HD 37490	26	4.5	0536326	+040541	L	1	12025	L	392	FU	87110603	031200	000001	502	G C=190,B=34
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32252	L	384	FU	87110606	061600	000200	503	G C=220,B=41
HSJGP	HD 37490	26	4.5	0536326	+040541	L	3	32253	L	386	FU	87110606	065200	000001	500	G C=176,B=18
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32267	L	361	FU	87110709	093900	000200	503	G C=220,B=41
HSJGP	HD 37490	26	4.5	0536326	+040541	H	3	32876	L	422	FU	88020700	001000	000200	502	G C=215,B=39
IBJBB	HD 37453	39	8.2	0536443	+300337	L	3	32755	L	1393	FO	88012001	011400	001800	401	G C=165,B=22
IBJBB	HD 37453	39	8.2	0536443	+300337	L	1	12532	L	1429	FO	88012001	015800	000412	403	G C=192,B=42
JA016	R127	23	09.28	0537097	-693127	H	1	12702	L	752	FO	88022008	081246	016700	402	V
ISJGS	HD 37642	21	8.1	0537255	-032123	H	3	32287	L	1732	FO	87111023	233000	011000	X05	G C=1.5X,B=62
ISJGS	HD 37642	21	8.1	0537255	-032123	H	1	12062	L	1725	FO	87111101	012900	003500	503	G C=205,B=49
ISJGS	HD 37674	21	7.7	0537415	-012917	H	3	32288	L	2333	FO	87111102	023100	004500	503	G C=229,B=47
HSJEF	HD 37742	13	1.8	0538140	-015757	L	3	33048	L	4596	FU	88030520	200900	000000	00	G B=18
HSJEF	HD 37742	13	1.8	0538140	-015757	L	3	33049	L	4617	FU	88030520	205400	000000	500	G C=254,B=18
HSJEF	HD 37742	13	1.8	0538140	-015757	L	1	12808	L	4385	FU	88030521	211400	000000	502	G C=250,B=36
HSJEF	HD 37742	13	1.8	0538140	-015757	L	3	33050	L	4667	FU	88030522	220200	000000	500	G C=252,B=18
HSJEF	HD 37742	13	1.8	0538140	-015757	L	1	12826	L	4935	FU	88030722	224500	000017	02	G B=35
JI047	H0538+608	59	15.00	0538159	+605002	L	3	32751	L	16	SO	88011907	075653	006000	332	V
JI047	H0538+608	59	15.00	0538159	+605002	L	1	12528	L		BO	88011909	090217	006000	302	V
JI047	H0538+608	59	15.00	0538159	+605002	L	3	32752	L		BO	88011910	101318	018000	342	V
JI047	H0538+608	59	15.00	0538159	+605002	L	1	12529	L		BO	88011913	132054	008800	332	V
ISJGS	HD 37756	20	4.9	0538183	-010913	H	3	32293	L	22587	FO	87111108	084900	000125	502	G C=200,B=38
JI094	LMCX-3	59	17.00	0538401	-640636	L	1	12459	L		BO	88010810	105105	024000	304	V
JQ093	LMCX-3	59	17.00	0538401	-640636	L	3	32694	L		BO	88010907	075218	040500	503	V
ISJGS	HD 37889	20	7.7	0538567	-065733	H	3	32292	L	2471	FO	87111107	074400	002800	503	G C=205,B=47
NPJTB	NGC 2022	71	12.3	0539216	+090344	L	3	32732	L		BO	88011523	234100	008000	342	G E=176,C=63,B=36
NPJTB	NGC 2022	71	12.3	0539216	+090344	L	1	12500	L		BO	88011601	010800	008000	09	G B=228
NPJTB	NGC 2022	71	12.3	0539224	+090356	L	1	12497	L		BO	88011501	013500	009022	339	G E=244,C=217,B=182
NPJTB	NGC 2022	71	12.3	0539225	+090356	L	3	32729	L		BO	88011423	235700	009000	201	G C=45,B=30
ISJGS	HD 38023	20	8.8	0539571	-080922	L	1	11995	L	746	FO	87110207	075100	000220	406	G C=223,B=76
ISJGS	HD 38023	20	8.8	0539571	-080922	H	1	12061	L	709	FO	87111020	200200	018500	506	G C=230,B=73
IEJTS	HD 38087	21	8.3	0540295	-022005	H	3	32748	L	1345	FO	88011815	154300	010000		G
IEJTS	HD 38087	21	8.3	0540295	-022005	H	1	12523	L	1406	FO	88011817	173400	018000		G C=123
IEJTS	HD 38087	21	8.3	0540295	-022005	H	3	32749	L	1508	FO	88011820	204600	010000	405	G C=207,B=64
IEJTS	HD 38087	21	8.3	0540295	-022005	H	1	12524	L	1481	FO	88011822	223800	017100	09	G B=108
IEJTS	HD 38087	21	8.3	0540295	-022005	H	1	12527	L	1412	FO	88011904	043700	004500	405	G C=170,B=63
IEJTS	HD 38087	21	8.3	0540295	-022005	H	3	32750	L	1507	FO	88011905	053000	008000	403	G C=158,B=44
JC106	FU ORI	58	99.99	0542381	+090301	E	9	01996	2			87110312	121700	004000		V LWP12005
PMJSK	FU ORI	64	9.0	0542381	+090301	H	1	12005	L	451	FO	87110320	200700	077000	3X9	G E=1.3X,C=220,B=157
PMJSK	FU ORI	64	9.0	0542381	+090301	L	1	12006	L	548	FO	87110402	021800	003500	352	G E=215,C=90,B=40
PMJSK	FU ORI	64	9.0	0542381	+090301	L	1	12013	L	538	FO	87110501	013700	007500	4X3	G E=2X,C=162,B=50

Vilspa Data Base 16-NOV-88 Page 96

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JI153	LHG83	59	16.20	0543490	-682336	L	1	12257	L		BO	87121112	122200	026800	304	V PREAD
JI153	LHG83	59	16.20	0543490	-682336	L	3	32511	L		BO	87121211	115243	024000	300	V
HSJEF	HD 38771	23	2.1	0545230	-094109	L	3	33064	L	3508	FU	88030719	195500	000033	00	G B=18
JM080	HD39060	31	04.29	0546059	-510502	H	3	32842	L	555	FU	88020205	053848	001000	500	V
CMJFB	HD 39060	33	3.86	0546059	-510459	H	1	12890	L	581	FU	88031923	232400	000325	504	G C=221,B=52
JM080	HD39060	31	04.30	0546059	-510502	H	1	12605	L	554	FU	88020205	055652	000400	501	V
CMJFB	HD 39060	33	3.86	0546059	-510459	H	1	12891	L	570	FU	88032000	000400	000650	05	G B=67
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12050	L	567	FU	87111003	033100	000325	503	G C=220,B=43
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12051	L	575	FU	87111004	041400	000650	X04	G C=2X,B=51
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12362	L	574	FU	87122303	033000	000650	04	G B=53
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12363	L	574	FU	87122304	041200	000325	503	G C=227,B=46
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12444	L	571	FU	88010523	235400	000325	503	G C=210,B=41
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12445	L	575	FU	88010600	003300	000650	03	G B=50
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12714	L	565	FU	88022121	213500	000325	503	G C=219,B=42
CMJFB	HD 39060	33	3.9	0546060	-510500	H	1	12715	L	579	FU	88022122	221800	000650	02	G B=32
CBJTA	HD 39118	39	5.98	0547538	+020040	L	1	12097	L	9040	FO	87111508	084100	000048	X02	G C=1.5X,B=40
CBJTA	HD 39118	39	5.98	0547538	+020040	L	3	32327	L	9112	FO	87111508	084700	000120	401	G C=170,B=25
IEJDM	HD 39291	20	5.35	0548569	-073147	L	3	32570	L	16986	FO	87122105	053100	000001	500	G C=195,B=17
IEJDM	HD 39291	20	5.35	0548569	-073147	L	3	32570	S	16916	FO	87122105	053700	000004	00	G B=17
IEJDM	HD 39291	20	5.35	0548569	-073147	L	1	12337	S	17186	FO	87122105	054200	000001	502	G C=230,B=35
IEJDM	HD 39291	20	5.35	0548569	-073147	L	1	12337	L	17091	FO	87122105	054200	000001	02	G B=33
ISJGS	HD 39291	20	5.4	0548570	-073148	H	3	32214	L	17483	FO	87110208	080900	000205	506	G C=230,B=72
CSJJB	HD 39364	45	3.8	0549100	-205230	L	1	12287	L	588	FU	87121604	040300	000030	502	G C=198,B=32
CSJJB	HD 39364	45	3.8	0549100	-205230	L	3	32531	L	589	FU	87121604	041800	003500	300	G C=50,B=18
JI026	CN ORI	54	15.00	0549404	-052540	L	1	12284	L		BO	87121510	102243	003000	302	V
JI026	CN ORI	54	15.00	0549404	-052540	L	3	32528	L		BO	87121511	110010	035700	342	V
JI026	CN ORI	54	14.00	0549404	-052540	L	3	32550	L		BO	87121710	101146	031500	332	V PREAD// REF.PNT.= -2
JI026	CN ORI	54	14.27	0549404	-052540	L	3	32562	L	35	SO	87121910	100027	006000	300	V
JI026	CN ORI	54	14.13	0549404	-052540	L	1	12315	L	40	SO	87121911	110932	006000	401	V
JI026	CN ORI	54	14.02	0549404	-052540	L	3	32563	L	44	SO	87121912	122648	012000	400	V PREAD
JI026	CN ORI	54	14.20	0549404	-052540	L	3	32564	L		BO	87121915	151357	007500	300	V PREAD
JI026	CN ORI	54	13.20	0549404	-052540	L	3	32572	L	91	SO	87122110	103719	006000	601	V
JI026	CN ORI	54	13.16	0549404	-052540	L	1	12340	L	95	SO	87122111	115405	004000	601	V
JI026	CN ORI	54	12.96	0549404	-052540	L	3	32573	L	113	SO	87122112	124036	005000	601	V PREAD
JI026	CN ORI	54	13.15	0549404	-052540	L	1	12341	L	94	SO	87122113	133648	003000	501	V
JI026	CN ORI	54	13.07	0549404	-052540	L	3	32574	L	103	SO	87122114	141635	004000	501	V
JI026	CN ORI	54	12.85	0549404	-052539	L	3	32593	L	125	SO	87122310	103558	003000	400	V
JI026	CN ORI	54	12.80	0549404	-052540	L	1	12364	L	130	SO	87122311	111601	002000	402	V
JE063	NGC 2133	83	13.81	0552109	-711105	L	3	32362	L	53	SO	87111912	120139	040500	303	V
JE063	N2133	83	13.99	0552110	-711106	L	1	12433	L	45	SO	88010307	075049	038000	304	V PREAD
LSJAD	HD 39801	49	0.5	0552279	+072357	H	3	33184	L	13256	FU	88033011	114400	018500	344	G E=170,C=110,B=52
LSJAD	HD39801	49	00.62	0552280	+072358	H	3	32393	L	13640	FU	87112512	120602	021000	261	V
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	12039	L	12427	FU	87110807	073800	000215	342	G E=177,C=75,B=36
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	32271	L	12438	FU	87110807	074800	001000	342	G E=172,C=58,B=35
LSJAD	HD 39801	49	0.5	0552280	+072358	L	1	12040	S	12448	FU	87110808	082400	000035	3X2	G E=2X,C=130,B=36

Vilspa Data Base 16-NOV-88 Page 97

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12040	L	12407	FU	87110808	082400	000005	352 G E=189,C=73,B=36
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32272	L	12582	FU	87110808	085800	005000	4X3 G E=4X,C=155,B=50
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12041	S	12478	FU	87110809	095700	004500	3?3 G E=10X,C=130,B=43
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12159	L	12130	FU	87112407	073600	000215	342 G E=174,C=85,B=36
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32386	L	12348	FU	87112407	074500	001000	340 G E=144,C=55,B=17
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12160	S	12294	FU	87112408	084700	000035	352 G E=206,C=68,B=32
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12160	L	12294	FU	87112408	084700	000005	3X2 G E=2X,C=118,B=31
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32387	L	12343	FU	87112409	090000	005000	4X0 G E=4X,C=145,B=18
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12161	L	12464	FU	87112410	100800	004000	5?3 G E=15X,C=230,B=50
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12517	L	12080	FU	88011723	233900	004500	5?5 G E=MGII,C=245,B=68
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32742	L	12121	FU	88011800	003400	003000	G
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12518	L	12206	FU	88011801	013700	000005	342 G E=170,C=72,B=35
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12518	S	12206	FU	88011801	014200	000035	?02 G C=MGII,C=120,B=32
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32743	L	12114	FU	88011801	015000	001000	342 G E=179,C=75,B=33
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12519	L	12138	FU	88011802	024000	000215	333 G E=123,C=95,B=50
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12571	L	12377	FU	88012623	232900	006000	04 G B=52
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32794	L	12802	FU	88012700	004000	005000	302 G C=131,B=36
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12572	L	12508	FU	88012701	013500	000215	302 G C=70,B=34
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32795		12735	FU	88012702	021100	001000	341 G E=136,C=59,B=28
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12573	L	12403	FU	88012702	024600	000005	342 G E=157,C=66,B=33
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12625	L	12546	FU	88020721	210800	000215	342 G E=158,C=75,B=40
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32880	L	12510	FU	88020721	213200	005000	402 G C=143,B=40
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12626	L	12322	FU	88020722	223000	004500	404 G C=195,B=58
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32881	L	12585	FU	88020723	232400	001000	341 G E=146,C=45,B=23
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12627	L	12249	FU	88020800	001000	000005	341 G E=160,C=68,B=30
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12627	S	12249	FU	88020800	001600	000035	341 G E=160,C=68,B=30
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12721	L	12822	FU	88022221	213400	006000	04 G B=55
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	32962	L	12742	FU	88022222	224200	001000	341 G E=145,C=50,B=26
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12722	L	12731	FU	88022223	233500	000215	G E=143,C=61
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12723	L	13726	FU	88022300	001400	000005	343 G E=173,C=81,B=43
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12723	S	12829	FU	88022300	001900	000229	543 G E=173,C=230,B=43
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12896	L	12534	FU	88032023	235500	000210	342 G E=162,C=78,B=37
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	33125	L	13576	FU	88032100	000700	004500	302 G C=130,B=37
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12897	L	13949	FU	88032101	010000	004500	07 G B=86
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	33126	L	12967	FU	88032101	015200	001000	340 G E=150,C=48,B=15
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	33189	L	13847	FU	88033118	185800	001000	341 G E=132,C=65,B=23
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12957	L	14007	FU	88033119	191600	005000	505 G C=250,B=65
LSJAD	HD	39801	49	0.5	0552280	+072358	H	1	12958	L	13190	FU	88033120	205500	000225	343 G E=164,C=71,B=41
LSJAD	HD	39801	49	0.5	0552280	+072358	L	3	33190	L	13383	FU	88033121	210500	004500	409 G C=225,B=110
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12959	L	13310	FU	88033122	220800	000005	42 G E=185,B=35
LSJAD	HD	39801	49	0.5	0552280	+072358	L	1	12959	S	13310	FU	88033122	221300	000035	302 G C=115,B=35
BEJGP	HD	41335	26	5.2	0601475	-064218	H	3	32224	L	18443	FO	87110409	093200	000330	503 G C=210,B=41
BEJGP	HD	41335	26	5.2	0601475	-064218	H	1	12010	L	18691	FO	87110409	093900	000130	403 G C=180,B=41
BEJGP	HD	41335	26	5.2	0601475	-064218	H	3	32507	L	17787	FO	87121203	032300	000330	502 G C=200,B=40
BEJGP	HD	41335	26	5.2	0601475	-064218	H	1	12260	L	17730	FO	87121203	033100	000130	503 G C=205,B=42

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
BEJGP	HD	41335	26	5.23	0601475	-064218	H	3	32687	L	17380	FO	88010823	234300	000330	502 G C=210,B=37
BEJGP	HD	41335	26	5.23	0601475	-064218	H	1	12461	L	17158	FO	88010823	235800	000130	G C=202
BEJGP	HD	41335	26	5.23	0601475	-064218	H	3	32701	L	18382	FO	88011123	230700	000330	503 G C=210,B=42
BEJGP	HD	41335	26	5.23	0601475	-064218	H	1	12473	L	18635	FO	88011123	231500	000130	09 G B=185,B=41
BEJGP	HD	41335	26	5.2	0601475	-064218	H	3	32874	L	18312	FO	88020622	221600	000330	502 G C=215,B=40
BEJGP	HD	41335	26	5.2	0601475	-064218	H	1	12619	L	18404	FO	88020622	222500	000130	403 G C=185,B=41
BEJGP	HD	41335	26	5.20	0601475	-064218	H	3	32970	L	17555	FO	88022323	231400	000330	503 G C=230,B=46
LDJDB	HD	43318	41	5.6	0613016	-002931	L	1	12507	L	12484	FO	88011700	005100	000106	502 G C=235,B=34
JA019	HD43246		22	07.82	0613117	+285212	H	3	32322	L	2781	FO	87111411	115027	014000	501 V
JA019	HD43246		22	07.84	0613117	+285212	H	1	12088	L	2721	FO	87111414	141719	005000	403 V
JA017	HD45166		11	10.28	0623359	+080017	H	3	32852	L	310	FO	88020405	054044	008000	300 V
JA017	HD 45166		11	99.99	0623359	+080017	E	9	02036	2			88020405	053000	016000	V FOR SWP 32855
JA017	HD 45166		11	10.29	0623359	+080017	H	3	32853	L	307	FO	88020407	074355	008000	300 V
JA017	HD 45166		11	10.25	0623359	+080017	H	3	32854	L	319	FO	88020409	094325	008000	300 V
JA017	HD 45166		11	10.19	0623359	+080017	H	3	32865	L	334	FO	88020507	074818	008000	401 V
JA017	HD 45166		11	10.25	0623360	+080018	H	3	32864	L	319	FO	88020505	051214	008000	501 V
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32848	L	285	FO	88020321	214700	008000	302 G C=120,B=40
JA017	HD 45166		11	10.23	0623360	+080018	H	3	32866	L	323	FO	88020509	094503	008000	301 V
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32849	L	287	FO	88020323	234000	008000	303 G C=122,B=41
JA017	HD 45166		11	10.24	0623360	+080018	H	3	32867	L	320	FO	88020511	115650	005000	300 V
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32850	L	294	FO	88020401	013400	008000	303 G C=127,B=45
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32851	L	304	FO	88020403	032700	008000	303 G C=122,B=41
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32855	L	323	FO	88020411	113900	008000	303 G C=125,B=42
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32856	L	314	FO	88020413	134000	008000	333 G E=112,C=127,B=43
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32857	L	317	FO	88020415	154700	008000	333 G E=113,C=128,B=42
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32858	L	314	FO	88020417	174200	008000	333 G E=112,C=126,B=41
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32859	L	315	FO	88020419	193300	008000	333 G E=115,C=125,B=42
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32860	L	307	FO	88020421	212600	008000	333 G E=112,C=125,B=42
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32861	L	305	FO	88020423	232000	008000	333 G E=110,C=125,B=42
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32862	L	331	FO	88020501	011700	008000	333 G E=107,C=127,B=43
WRJSH	HD	45166	11	9.9	0623360	+080018	H	3	32863	L	328	FO	88020503	031000	008000	333 G E=113,C=125,B=42
NPJHD	NGC	2242	70	14.6	0630279	+444858	L	3	32440	L		BO	87120118	182100	006000	301 G C=52,B=25,N=1
NPJHD	NGC	2242	70	14.6	0630279	+444858	L	3	32441	L		BO	87120119	194500	024000	305 G C=122,B=63,N=1
NPJHD	NGC	2242	70	14.6	0630279	+444858	L	1	12214	L		BO	87120123	235600	012000	334 G E=94,C=88,B=58,N=3
NPJHD	NGC	2242	70	14.6	0630279	+444858	L	1	12215	L		BO	87120202	022500	014500	337 G E=127,C=130,B=90,N=3
CVJJP	CW	MON	54	16.0	0634206	+000452	L	3	32793	L		BO	88012620	200900	016500	302 G C=67,B=39
PHCAL	HD	48915	30	-1.5	0642566	-163845	H	3	32467	L			87120601	015900	000002	502 G C=211,B=32
PHCAL	HD	48915	30	-1.5	0642566	-163845	H	1	12234	L			87120602	020500	000001	503 G C=196,B=41
USSBS	HD	48915	30	-1.5	0642566	-163845	H	3	32617	L			87122508	082100	000006	05 G B=63
SAJCW	HD	48879	21	5.1	0645449	+673748	L	3	32997	L	18961	FO	88022723	235900	000008	G C=198
SAJCW	HD	48879	21	5.1	0645449	+673748	L	1	12755	L	19217	FO	88022800	001400	000007	503 G C=230,B=45
BEJTS	HD	50123	26	5.7	0648299	-313848	H	1	12310	L	13368	FO	87121903	034400	000830	55 G E=230,B=68
BEJTS	HD	50123	26	5.7	0648299	-313848	H	3	32559	L	14198	FO	87121904	040000	001030	504 G C=207,B=52
USSBS	HD	50310	47	2.93	0648417	-503300	H	1	12232	L	1235	FU	87120504	043700	004000	504 G C=220,B=51
CBJTA	HD	50337	39	7.5	0648461	-533347	L	1	12080	L	320	FU	87111307	070600	000040	X02 G C=1.1X,B=38

Vilspa Data Base 16-NOV-88 Page 99

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32312	L	329	FU	87111307	071300	000300	501	G C=220,B=24
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12081	L	323	FU	87111307	075200	004000	X39	G E=215,C=1.1X,B=116
CBJTA	HD 50337	39	7.5	0648461	-533347	H	3	32313	L	325	FU	87111308	083800	009000	406	G C=195,B=80
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12086	L	332	FU	87111407	072400	000040	X02	G C=1.1X,B=40
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32320	L	335	FU	87111407	072900	000324	503	G C=235,B=41
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12087	L	336	FU	87111408	080900	002000	X09	G C=1.2X,B=161
CBJTA	HD 50337	39	7.5	0648461	-533347	H	3	32321	L	332	FU	87111409	091000	010000	209	G C=210,B=200
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12096	L	331	FU	87111507	072800	000042	X02	G C=1.2X,B=40
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32326	L	330	FU	87111507	073200	000336	X03	G C=1.5X,B=50
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12098	L		BD	87111509	093100	003200	333	G E=78,C=87,B=50
CBJTA	HD 50337	39	7.5	0648461	-533347	H	3	32328	L	328	FU	87111510	101000	004000	332	G E=108,C=85,B=35
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32337	L	320	FU	87111605	052100	000324	501	G C=230,B=23
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12104	L	321	FU	87111605	053000	004000	X39	G E=195,C=1.5X,B=138
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12105	L	330	FU	87111606	064300	000042	X02	G C=1.2X,B=40
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12119	L	309	FU	87111721	211400	000042	502	G C=240,B=35
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32353	L	311	FU	87111721	212100	000400	300	G C=95,B=18
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12120	L	310	FU	87111723	234300	000042	502	G C=239,B=35
CBJTA	HD 50337	39	7.5	0648461	-533347	H	3	32354	L	317	FU	87111723	235100	025000	309	G C=208,B=115
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12121	L	307	FU	87111804	041300	007500	X09	G C=2.5X,B=114
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32355	L	27282	FO	87111805	053500	000800	401	G C=172,B=22
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12122	L	320	FU	87111806	060800	000048	502	G C=250,B=38
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32356	L	318	FU	87111806	065000	000300	301	G C=100,B=25
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32363	L	27033	FO	87112005	050500	000324	500	G C=228,B=17
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12132	L	329	FU	87112005	051800	004500	X46	G E=190,C=1.2X,B=77
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12133	L	334	FU	87112006	063500	000042	X02	G C=1.1X,B=37
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12136	L	323	FU	87112104	040900	004500	X04	G C=1.1X,B=54
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32369	L	326	FU	87112105	054700	000324	500	G C=220,B=17
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12137	L	351	FU	87112106	064500	000040	X02	G C=2X,B=36
CBJTA	HD 50337	39	7.5	0648461	-533347	H	1	12144	L	323	FU	87112203	032000	004500	X04	G C=1.2X,B=52
CBJTA	HD 50337	39	7.5	0648461	-533347	L	1	12145	L	332	FU	87112205	054700	000040	X02	G C=1.2X,B=34
CBJTA	HD 50337	39	7.5	0648461	-533347	L	3	32377	L	323	FU	87112205	055300	000324	300	G C=38,B=17
JA016	HD50896	11	06.97	0652081	-235152	H	3	32948	L	5856	FO	88022004	045144	000400	361	V
JA016	HD50896	11	07.01	0652081	-235152	H	3	32951	L	5651	FO	88022104	044657	000400	461	V
JA016	HD50896	11	06.98	0652081	-235152	H	1	12709	L	5799	FO	88022104	045724	000400	451	V
JA016	HD50896	11	07.00	0652081	-235152	H	3	32957	L	5687	FO	88022204	044818	000400	361	V
JA016	HD50896	11	07.06	0652081	-235152	H	1	12717	L	5409	FO	88022204	045723	000400	452	V
JA016	HD50896	11	07.15	0652081	-235152	H	3	32965	L	5020	FO	88022307	072659	000400	361	V
JA016	HD50896	11	07.08	0652081	-235152	H	1	12726	L	5346	FO	88022307	073557	000400	452	V
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32536	L	664	FO	87121622	223100	000230	500	G C=207,B=18
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32537	L	651	FO	87121623	230400	000250	500	G C=217,B=18
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32538	L	609	FO	87121623	233800	000315	500	G C=214,B=18
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32539	L	608	FO	87121700	001200	000330	500	G C=213,B=18
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32540	L	610	FO	87121700	004600	000340	500	G C=230,B=17
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32541	L	606	FO	87121701	012300	000345	500	G C=216,B=17
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32542	L	598	FO	87121702	020300	000400	500	G C=230,B=17

Vilspa Data Base 16-NOV-88 Page 100

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32543	L	594	FO	87121702	023500	000400	550	G E=208,C=220,B=17
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32544	L	614	FO	87121703	031000	000345	500	G C=220,B=17
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32545	L	627	FO	87121703	034200	000330	500	G C=225,B=17
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32546	L	677	FO	87121704	041700	000315	500	G C=235,B=18
IPJRP	AU MON	66	8.4	0652225	-011841	L	3	32547	L	740	FO	87121704	044800	000300	500	G C=210,B=17
JC140	HD51424	47	06.85	0654356	-080643	H	1	12663	L	6506	FO	88021406	060826	007000	503	V
PHCAL	T FLOOD	99		0700256	-040954	L	1	12668	S			88021423	235000	000025	08	G B=100
PHCAL	WAVECAL	98		0700256	-040954	L	1	12668	S			88021423	235200	000016	08	G B=100
PHCAL	T FLOOD	99		0700256	-040954	H	1	12669	S			88021500	003000	000025	09	G B=102
PHCAL	WAVECAL	98		0700256	-040954	H	1	12669	S			88021500	003200	000016	09	G B=102
PHCAL	T FLOOD	99		0700256	-040954	L	3	32927	S			88021500	003400	000005	08	G B=100
PHCAL	WAVECAL	98		0700256	-040954	L	3	32927	S			88021500	003600	000002	08	G B=100
PHCAL	T FLOOD	99		0700256	-040954	H	3	32928	S			88021500	005900	000005	09	G B=123
PHCAL	WAVECAL	98		0700256	-040954	H	3	32928	S			88021501	010200	000200	09	G B=123
JA194	HD52918	26	05.32	0700257	-040955	H	3	32399	L	21184	FO	87112611	112611	000150	500	V
PRJCG	HD 52918	26	4.9	0700257	-040955	H	3	32926	L	22005	FO	88021423	232000	000150	502	G C=225,B=40
IA173	HD53179	26	10.05	0701226	-112836	L	1	12885	L	381	FO	88031905	053345	003000	341	V
IA173	HD53179	26	10.03	0701226	-112836	L	3	33112	L	386	FO	88031906	061144	004900	201	V
PHCAL	T FLOOD	99		0704591	-865727	L	3	32770	S			88012405	051200	000005	09	G B=102
PHCAL	WAVECAL	98		0704591	-865727	L	3	32770	S			88012405	051400	000002	09	G B=102
PHCAL	T FLOOD	99		0704591	-865727	H	3	32771	S			88012405	054000	000005	09	G B=117
PHCAL	WAVECAL	98		0704591	-865727	H	3	32771	S			88012405	054200	000200		G
PHCAL	T FLOOD	99		0704591	-865727	L	1	12560	S			88012406	060000	000025	09	G B=103
PHCAL	WAVECAL	98		0704591	-865727	L	1	12560	S			88012406	060200	000001	09	G B=103
PHCAL	T FLOOD	99		0704591	-865727	H	1	12561	S			88012406	063200	000025	09	G B=108
PHCAL	WAVECAL	98		0704591	-865727	H	1	12561	S			88012406	063300	000016	09	G B=108
CBJNE	V465 MON	53	10.5	0705360	+000054	L	3	32513	L	163	FO	87121222	225700	011300	04	G B=52
CBJNE	V465 MON	53	10.5	0705360	+000054	L	1	12266	L	159	FO	87121222	225900	004500	304	G C=136,B=52
IEJDM	HD 54669	20	6.65	0706439	-235747	L	1	12336	L	6106	FO	87122104	040800	000003	02	G B=33
IEJDM	HD 54669	20	6.65	0706439	-235747	L	1	12336	S	6050	FO	87122104	041300	000022	402	G C=185,B=36
IEJDM	HD 54669	20	6.65	0706439	-235747	L	3	32569	L	6073	FO	87122104	041800	000005	500	G C=200,B=17
IEJDM	HD 54669	20	6.65	0706439	-235747	L	3	32569	S	6017	FO	87122104	042300	000017	00	G B=17
OD36Y	NGC 2359	76		0716043	-130709	L	3	32888	L		BO	88020816	163800	037500	08	G B=95
OD35Y	VY CMA	49	8.0	0720549	-254011	L	1	12646	L	3787	FO	88021115	153100	045000	309	G C=145,B=105
USSBS	HD 58715	22	2.90	0724261	+082327	H	3	32464	L	1486	FU	87120501	012900	000230	05	G B=67
PRJCG	HD 58978	26	5.5	072452	-225903	H	3	32677	L	14415	FO	88010701	014800	000240	502	G C=200,B=38
JA194	HD 58978	26	05.95	0724522	-225903	H	3	32398	L	13625	FO	87112611	113036	000240	400	V
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32222	L	14607	FO	87110407	074000	000240	502	G C=197,B=37
JA194	HD58978	26	05.91	0724522	-225903	H	3	33119	L	14037	FO	88032004	040656	000240	501	V
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12009	L	14551	FO	87110407	074700	000001	402	G C=143,B=32
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32223	L	14700	FO	87110408	081800	000001	400	G C=165,B=18
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32265	L	13569	FO	87110707	075500	000250	502	G C=220,B=40
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32266	L	13877	FO	87110708	082900	000002	500	G C=215,B=15
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12035	L	14019	FO	87110708	083400	000001	501	G C=205,B=30
PRJCG	HD 58978	26	5.5	0724522	-225903	H	3	32317	L	14584	FO	87111404	042900	000240	502	G C=200,B=38

Vilspa Data Base 16-NOV-88 Page 101

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32505	L	13442	FO	87121201	013200	000250	502	G C=205,B=39
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32506	L	13546	FO	87121202	020600	000002	500	G C=210,B=11
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12259	L	13633	FO	87121202	021000	000001	502	G C=210,B=38
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32688	L	14090	FO	88010901	010900	000250	502	G C=218,B=37
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12462	L	14178	FO	88010901	011600	000001	502	G C=200,B=35
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32689	L	14263	FO	88010901	014800	000002	500	G C=210,B=17
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32702	L	14943	FO	88011200	002400	000250	503	G C=215,B=42
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32703	L	14945	FO	88011200	005600	000002	500	G C=199,B=18
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12474	L	14955	FO	88011201	010100	000001	402	G C=170,B=35
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32872	L	14092	FO	88020620	201300	000250	502	G C=210,B=40
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12618	L	14105	FO	88020620	202300	000001	502	G C=200,B=37
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32873	L	14111		88020621	212700	000002	500	G C=200,B=12
PRJCG	HD 58978	26	5.5	0724522	-225903	H	3	32925	L	13428	FO	88021422	220500	000240	502	G C=202,B=34
PRJCG	HD 58978	26	5.5	0724522	-225903	H	1	12667	L	13509	FO	88021422	221200	000130	503	G C=204,B=43
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	32968	L	13605	FO	88022320	200600	000250	502	G C=203,B=40
BEJGP	HD 58978	26	5.5	0724522	-225903	L	3	32969	L	13930	FO	88022320	203800	000002	500	G C=212,B=18
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12728	L	13539	FO	88022320	204300	000001	502	G C=207,B=36
BEJGP	HD 58978	26	5.5	0724522	-225903	H	3	33039	L	13361	FO	88030422	225100	000250	502	G C=218,B=38
BEJGP	HD 58978	26	5.5	0724522	-225903	L	1	12799	L	13448	FO	88030422	225800	000001	502	G C=208,B=36
SRJEB	U MON	52	6.3	0728210	-094000	L	1	12223	L	10104	FO	87120408	082900	000500	552	G E=231,C=215,B=36
SRJEB	U MON	52	6.3	0728210	-094000	L	1	12268	L	9485	FO	87121304	041300	000300	442	G E=140,C=150,B=40
SRJEB	U MON	52	6.3	0728210	-094000	L	1	12608	L	3529	FO	88020300	004900	000500	452	G E=211,C=162,B=37
SRJEB	U MON	52	6.3	0728210	-094000	H	1	12609	L	3635	FO	88020302	020800	016000	345	G E=194,C=120,B=70
SRJEB	U MON	52	6.3	0728210	-094000	L	1	12635	L	3264	FO	88020920	201600	000500	452	G E=203,C=154,B=31
SRJEB	U MON	52	6.3	0728210	-094000	H	1	12636	L	3055	FO	88020921	210100	010000	344	G E=154,C=100,B=51
SRJEB	U MON	52	6.3	0728210	-094000	L	1	12785	L	11207	FO	88030219	193900	000500	52	G E=221,B=38
JC177	YY GEM	48	09.01	0731257	+315846	L	1	12802	L	963	FO	88030504	040952	002800	353	V REF POINTS (2,-212)
JC177	YY GEM	48	09.15	0731257	+315846	L	3	33042	L	851	FO	88030504	045301	002500	230	V PREAD
JC177	YY GEM	48	09.10	0731257	+315846	L	1	12803	L	887	FO	88030505	053244	002000	353	V REF POINTS (2,-212)
JC177	YY GEM	48	09.12	0731257	+315846	L	3	33043	L	870	FO	88030506	062309	002500	230	V PREAD
JC177	YY GEM	48	09.10	0731257	+315846	L	1	12804	L	888	FO	88030506	065913	002000	353	V REF POINTS (2,-212)
JC177	YY GEM	48	09.12	0731257	+315846	L	3	33044	L	871	FO	88030507	074204	002500	351	V PREAD
JC177	YY GEM	48	09.06	0731257	+315846	L	1	12805	L	915	FO	88030509	090456	002000	353	V REF POINTS (2,-212)
JC177	YY GEM	48	09.18	0731257	+315846	L	3	33045	L	823	FO	88030509	095710	002500	230	V PREAD
JC177	YY GEM	48	99.99	0731257	+315846	L	1	12806	L		FO	88030510	103531	001500	243	V REF POINTS (2,-212)&
JC177	YY GEM	48	09.14	0731257	+315846	L	1	12811	L	857	FO	88030603	035203	002000	353	V REF POINTS (2,-212)
JC177	YY GEM	48	99.99	0731257	+315846	L	3	33053	L			88030604	043139	002500	230	V PREAD
JC177	YY GEM	48	99.99	0731257	+315846	L	1	12812	L			88030605	050412	002000	353	V REF. POINTS (2,-212
JC177	YY GEM	48	09.35	0731257	+315846	L	3	33054	L	707	FO	88030605	054403	002500	230	V PREAD
JC177	YY GEM	48	99.99	0731257	+315846	L	1	12813	L			88030606	062153	002000	353	V REF. POINTS (2,-212
JC177	YY GEM	48	99.99	0731257	+315846	L	3	33055	L			88030607	071012	002500	230	V PREAD
JC177	YY GEM	48	09.09	0731257	+315846	L	1	12814	L	892	FO	88030607	074843	002000	353	V REF. POINTS (2,-212)
JC177	YY GEM	48	99.99	0731257	+315846	L	3	33056	L			88030608	083116	002500	230	V PREAD
JC177	YY GEM	48	99.99	0731257	+315846	L	1	12815	L			88030609	090511	002000	353	V REF. POINTS (2,-212)
JC177	YY GEM	48	99.99	0731257	+315846	L	3	33057	L			88030609	094828	004800	250	V PREAD

Vilspa Data Base 16-NOV-88 Page 102

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC177	YY GEM	48	99.99	0731257	+315846	L	1	12816	L			88030610	104207	001000	353	V REF POINT 2,-212 &
PHCAL	HD60753	21	07.09	0732080	-502829	L	3	32885	L	5293	FO	88020808	084746	000010	500	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12288	L	5596	FO	87121605	052400	000006	502	G C=196,B=33
PHCAL	HD60753	21	07.02	0732080	-502829	L	1	12629	L	5609	FO	88020808	085152	000006	502	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12289	L	5649	FO	87121605	055800	000002	302	G C=111,B=33
PHCAL	HD60753	21	06.88	0732080	-502829	H	3	32886	L	6343	FO	88020809	092625	001300	500	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12290	L	5972	FO	87121606	063100	000007	502	G C=224,B=35
PHCAL	HD60753	21	07.04	0732080	-502829	H	1	12630	L	5490	FO	88020810	100225	000900	503	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12291	L	5562	FO	87121607	070700	000010	02	G B=35
PHCAL	HD60753	21	06.77	0732080	-502829	L	3	33024	L	6941	FO	88030209	093058	000010	500	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12292	L	5582	FO	87121607	074300	000006		G
PHCAL	HD60753	21	06.78	0732080	-502829	L	1	12782	L	6920	FO	88030209	093532	000006	500	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12316	L	156	SO	87121917	174900	000026	341	G E=137,C=45,B=22
PHCAL	HD60753	21	06.81	0732080	-502829	H	3	33025	L	6726	FO	88030210	100523	001300	400	V
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12317	L	5930	FO	87121918	185200	000010	302	G C=110,B=34
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12318	L	5856	FO	87121919	194000	000031	502	G C=218,B=38
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12319	L	5851	FO	87121920	204600	000040	02	G B=37
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12320	L	5899	FO	87121921	212300	000026	502	G C=195,B=37
PHCAL	NULL	99		0732080	-502828	L	1	12321				87121921	215600	000000	02	G B=35
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12322	L	5799	FO	87121922	222900	000015	402	G C=142,B=36
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12323	L	5836	FO	87121923	231000	000005	302	G C=90,B=36
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12324	L	5872	FO	87121923	235300	000051	03	G B=41
PHCAL	HD 60753	21	6.69	0732080	-502828	L	1	12325	L	5874	FO	87122000	003300	000026	502	G C=192,B=34
PHCAL	HD60753	24	07.05	0732081	-502829	L	3	32429	L	5442	FO	87113012	121852	000010	500	V
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32420	L	5478	FO	87112906	064000	000010	500	G C=180,B=18
PHCAL	HD60753	24	07.05	0732081	-502829	L	1	12202	L	5479	FO	87113012	122251	000006	501	V
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18163	L	5731	FO	87123107	071200	000009	401	G C=170,B=25
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	12476	L	6206	FO	88011204	041900	000006	402	G C=167,B=35
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32705	L	6204	FO	88011204	042300	000000	400	G C=165,B=18
PHCAL	HD 60753	21	6.7	0732081	-502829	H	3	32823	L	5096	SO	88013019	190100	001400	502	G C=195,B=37
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32824	L	5375	FO	88013019	194400	000012		G
PHCAL	HD 60753	21	6.7	0732081	-502829	H	1	12597	L	5359	FO	88013019	195100	001000	503	G C=235,B=45
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	12598	L	5498	FO	88013020	205100	000006	502	G C=200,B=32
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32878	L	5850	FO	88020703	032300	000010	500	G C=180,B=18
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18169	L			88020823	234000	000009		G
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32897	L	5491	FO	88021100	002100	000010	400	G C=155,B=17
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	12642	L	5496	FO	88021100	002500	000006	502	G C=182,B=31
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	33191	L	5590	FO	88033123	232200	000010	500	G C=185,B=15
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	12960	L	5593	FO	88033123	232700	000006	502	G C=190,B=37
DGJTT	HARO 1	88	12.3	0733394	+352115	L	1	12703	L	67		88022013	130900	035500	09	G B=147
HBJAP	HD 60825	38	8.0	0733520	+025849	L	3	32499	L	1792	FO	87121102	025200	001000	01	G B=22
HBJAP	HD 60825	38	8.0	0733520	+025849	L	3	32500	L	1790	FO	87121103	034200	000320	401	G C=160,B=25
PHCAL	T FLOOD	99		0735161	+350944	L	1	12780	L			88030200	003200	000025	09	G B=104
PHCAL	WAVECAL	98		0735161	+350944	L	1	12780	L			88030200	003400	000001	09	G B=104
PHCAL	T FLOOD	99		0735161	+350944	H	1	12781	L			88030201	010300	000025	09	G B=116

Vilspa Data Base 16-NOV-88 Page 103

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	WAVECAL	98		0735161	+350944	H	1	12781	L			88030201	010400	000016	09	G B=116
PHCAL	T FLOOD	99		0735161	+350944	L	3	33022	S			88030201	011800	000005	09	G B=102
PHCAL	WAVECAL	98		0735161	+350944	L	3	33022	B			88030201	011900	000002		G
PHCAL	T FLOOD	99		0735161	+350944	H	3	33023	S			88030201	014400	000005	09	G B=110
PHCAL	WAVECAL	98		0735161	+350944	H	3	33023	S			88030201	014500	000200	09	G B=110
HCJTA	HD 61913	50	5.6	0739141	+141937	L	3	33058	L	15946	FO	88030611	114000	030000	336	G E=106,C=106,B=79
HCJTA	HD 61913	50	5.6	0739141	+141937	L	1	12817	L	15903	FO	88030616	164800	001000	352	G E=211,C=98,B=34
NPJTB	NGC 2440	71	11.4	0739418	-180517	L	3	32721	S		BO	88011402	024500	007500	03	G B=45
NPJTB	NGC 2440	71	11.4	0739418	-180517	L	1	12490	S		BO	88011404	040700	011500	336	G E=101,C=92,B=71
NPJTB	NGC 2440	71	11.4	0739423	-180523	L	3	32720	L		BO	88011323	235100	004000	301	G C=50,B=28
NPJTB	NGC 2440	71	11.4	0739423	-180523	L	1	12489	L		BO	88011400	004100	008000	303	G C=85,B=50
NPJTB	NGC 2440	71	11.4	0739423	-180523	L	3	32722	L		BO	88011406	061800	001500	51	G E=199,B=23
OD21Y	-30 5135	66	9.5	0747089	-310011	L	3	33031	L	437	FO	88030320	200700	005000	221	G E=50,C=50,B=30
CSJJB	HD 64090	44	8.3	0750220	+304523	L	1	12286	L	1223	FO	87121602	020400	000230	402	G C=150,B=33
CSJJB	HD 64090	44	8.3	0750220	+304523	L	3	32530	L	1202	FO	87121602	021400	006000	300	G C=63,B=20
IEJDM	HD 64740	20	4.63	0751389	-492855	L	3	32568	L	352	FU	87122102	023900	000002	500	G C=215,B=17
IEJDM	HD 64740	20	4.63	0751389	-492855	L	1	12335	L	351	FU	87122102	025100	000002	402	G C=175,B=35
HBJAP	HD 64488	38	7.1	0752330	+392512	L	3	32498	L	3166	FO	87121101	015700	000300	501	G C=185,B=25
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12344	L	462	FO	87122119	194800	001000	402	G C=145,B=37
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32576	L	459	FO	87122120	200700	007500		G
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12345	L	465	FO	87122121	213100	000700	352	G E=244,C=118,B=37
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32577	L	472	FO	87122122	221300	007000	352	G E=234,C=84,B=38
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12346	L	491	FO	87122123	233600	000600	302	G C=130,B=36
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32578	L	513	FO	87122200	001100	005000	450	G E=212,C=140,B=20
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12347	L	606	FO	87122201	013700	000400	452	G E=215,C=144,B=32
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32579	L	617	FO	87122201	014900	004000	550	G E=185,C=185,B=17
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12348	L	746	FO	87122202	025900	000300	452	G E=208,C=145,B=32
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32580	L	741	FO	87122203	030900	003000	550	G E=182,C=210,B=18
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12349	L	838	FO	87122204	041200	000230	452	G E=202,C=150,B=32
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32581	L	883	FO	87122204	042100	002000	540	G E=147,C=200,B=18
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12350	L	969	FO	87122205	051700	000200		G
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32582	L	978	FO	87122205	052600	002000	550	G E=174,C=220,B=17
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12351	L	1139	FO	87122206	063700	000200	452	G E=193,C=145,B=35
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32583	L	1147	FO	87122206	064600	002000	50	G E=179,B=17
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12352	L	1271	FO	87122207	074500	000130	402	G C=140,B=32
ALJGM	HD 65607	66	8.2	0756501	-072206	L	3	32584	L	1283	FO	87122207	075400	001500	540	G E=146,C=223,B=18
ALJGM	HD 65607	66	8.2	0756501	-072206	L	1	12353	L	1307	FO	87122208	083900	000100	302	G C=108,B=32
OD21Y	SAO 97496	66	8.7	0759414	+151905	L	1	12794	L	769	FO	88030321	214200	006000	3X3	G E=1.5X,C=130,B=45
IBJJE	BD +15 1733	47	8.9	0759415	+151907	L	1	12149	L	714	FO	87112303	034300	006000	3X3	G E=1.5X,C=135,B=44
IBJJE	BD +15 1733	47	8.9	0759415	+151907	L	3	32381	L	778	FO	87112304	045300	009000	05	G B=70
IBJJE	BD +15 1733	47	8.9	0759415	+151907	L	1	12150	L	764	FO	87112306	063000	002000	347	G E=200,C=124,B=84
IBJJE	BD +15 1733	47	8.9	0759415	+151907	L	1	12163	L	832	FO	87112504	042400	009000	3X9	G E=1.5X,C=215,B=117
PHCAL	BD+75325	16	09.80	0804430	+750648	L	3	32323	S	474	FO	87111415	160336	000045	503	V
PHCAL	BD+75325	16	09.80	0804430	+750648	L	3	32323	L	474	FO	87111415	155635	000014	501	V
PHCAL	BD+75325	16	09.80	0804430	+750648	L	1	12089	S	474	FO	87111416	163645	000100	503	V

Vilspa Data Base 16-NOV-88 Page 104

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	BD+75325	16	09.80	0804430	+750648	L	1	12089	L	474	FO	87111416	163222	000020	503	V
PHCAL	BD+75 325	16	09.72	0804430	+750648	H	1	12354	L	508	FO	87122209	094633	003000	501	V
PHCAL	BD+75 325	16	09.73	0804430	+750648	H	3	32585	L	507	FO	87122210	102720	002500	401	V
PHCAL	BD+75 325	16	09.76	0804430	+750648	L	1	12355	L	494	FO	87122211	113204	000020	501	V
PHCAL	BD+75 325	16	09.74	0804430	+750648	L	3	32586	L	501	FO	87122211	114305	000014	501	V
PHCAL	BD+75 325	16	09.88	0804430	+750648	H	1	12748	L	443	FO	88022708	082900	003000	503	V
PHCAL	BD+75 325	16	09.85	0804430	+750648	H	3	32994	L	455	FO	88022709	090606	002500	501	V
PHCAL	BD+75 325	16	09.91	0804430	+750648	L	1	12749	L	431	FO	88022709	094330	000020	503	V
PHCAL	BD+75 325	16	09.84	0804430	+750648	L	1	12750	L	457	FO	88022710	105634	000040	603	V PREAD
PHCAL	BD+75 325	16	09.91	0804430	+750648	L	3	32995	L	465	FO	88022710	101916	000014	501	V
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12190	L	468	FO	87112904	045600	000020	502	G C=189,B=36
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	32419	L	458	FO	87112905	050100	000014	500	G C=168,B=17
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	2	18154	L	512	FO	87120207	074700	000033	402	G C=180,B=35
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	2	18158	L	470	FO	87123102	022700	000033	401	G C=168,B=23
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12477	L	521	FO	88011205	054400	000020	402	G C=170,B=35
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	32706	L	503	FO	88011205	054800	000014	400	G C=160,B=18
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12483	L	501	FO	88011306	062300	000140	502	G C=210,B=38
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	32714	L	504	FO	88011306	063700	000043	400	G C=155,B=17
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	2	18171	L	474	FO	88020901	014000	000033	401	G C=165,B=25
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	32898	L	479	FO	88021102	020500	000014	400	G C=163,B=16
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12643	L	461	FO	88021102	021000	000020	502	G C=200,B=31
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12907	L	464	FO	88032219	193900	000020	402	G C=180,B=36
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12908	L	597	FO	88032220	201200	000100	502	G C=194,B=36
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	1	12909	L	455	FO	88032221	210600	000140	502	G C=205,B=39
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	33138	L	462	FO	88032221	213600	000014	400	G C=160,B=12
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	33139	L	595	FO	88032222	220500	000042	500	G C=180,B=18
PHCAL	BD +75 325	16	9.5	0804432	+750648	L	3	33140	L	473	FO	88032222	225300	000043	?09	G C=155,B=181
WDJNO	HD 66751	41	6.5	0805111	+695214	L	3	32509	L	5810	FO	87121205	054300	003000	305	G C=145,B=62
WDJNO	HD 66751	41	6.5	0805111	+695214	L	1	12261	L	5614	FO	87121206	061900	000100	X02	G C=255,B=38
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32405	L	1325	FU	87112706	062900	000035	502	G C=197,B=40
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32406	L	1337	FU	87112707	073400	000038	502	G C=206,B=40
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12177	L	1330	FU	87112707	073900	000028	503	G C=222,B=47
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32407	L	1349	FU	87112708	083800	000038	502	G C=203,B=38
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12178	L	1329	FU	87112708	084300	000028	503	G C=210,B=44
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32408	L	1327	FU	87112709	091200	000038	502	G C=204,B=39
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12179	L	1335	FU	87112710	100900	000028	503	G C=211,B=44
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32409	L	1335	FU	87112710	101400	000038	502	G C=199,B=37
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32435	L	1083	FU	87120105	055800	000038	502	G C=204,B=40,N=2
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12208	L	1105	FU	87120106	060400	000028	503	G C=216,B=46,N=3
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32436	L	1116	FU	87120107	070600	000038	502	G C=204,B=40,N=2
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12209	L	1118	FU	87120107	071200	000028	503	G C=210,B=47,N=3
CBJJS	HD 68243	66	4.27	0807567	-471152	H	3	32437	L	1116	FU	87120108	080900	000038	502	G C=193,B=38,N=2
CBJJS	HD 68243	66	4.27	0807567	-471152	H	1	12210	L	1116	FU	87120108	081400	000028	502	G C=193,B=38,N=2
CBJJS	HD 68243	66	4.27	0807568	-471153	H	1	12176	L			87112706	063500	000028	503	G C=220,B=48 HR
J1024	Z CHA	54	13.58	0808501	-762309	L	3	32805	L	65	SO	88012907	070701	002000	340	V PREAD

Vilspa Data Base 16-NOV-88 Page 105

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CVJGS	Z CHA	54	13	0808501	-762309	L	1	12579	L	88	SO	88012816	162400	001500	402	G C=140,B=33
JI024	Z CHA	54	13.63	0808501	-762309	L	1	12583	L	62	SO	88012907	073631	002000	401	V
CVJGS	Z CHA	54	13	0808501	-762309	L	3	32799	L	83	SO	88012816	164400	002000	341	G E=146,C=58,B=21
JI024	Z CHA	54	13.63	0808501	-762309	L	3	32806	L	62	SO	88012908	081248	002000	340	V OFF CENTER IN Y(-3")
CVJGS	Z CHA	54	13	0808501	-762309	L	1	12580	L	97	SO	88012817	171800	002000	402	G C=180,B=35
JI024	Z CHA	54	13.65	0808501	-762309	L	1	12584	L	61	SO	88012908	084805	002000	401	V
CVJGS	Z CHA	54	13	0808501	-762309	L	3	32800	L	78	SO	88012817	174700	000500	230	G E=40,C=30,B=18
JI024	Z CHA	54	13.71	0808501	-762309	L	3	32807	L	58	SO	88012909	091955	002000	340	V
CVJGS	Z CHA	54	13	0808501	-762309	L	3	32801	L	102	SO	88012818	182700	002500	341	G E=156,C=88,B=30
JI024	Z CHA	54	13.87	0808501	-762309	L	1	12585	L	50	SO	88012909	095254	000500	201	V DURING ECLIPSE
CVJGS	Z CHA	54	12.0	0808501	-762309	L	3	32814	L	33	SO	88013002	021800	002500	331	G E=90,C=64,B=24
JI024	Z CHA	54	13.63	0808501	-762309	L	3	32808	L	62	SO	88012910	102132	002000	340	V
CVJGS	Z CHA	54	12.0	0808501	-762309	L	1	12589	L	36	SO	88013002	025100	002500	303	G C=118,B=43
JI024	Z CHA	54	13.73	0808501	-762309	L	1	12586	L	57	SO	88012910	105414	002000	401	V
CVJGS	Z CHA	54	12.0	0808501	-762309	L	3	32815	L	36	SO	88013003	032400	002000		G
JI024	Z CHA	54	13.69	0808501	-762309	L	3	32809	L	59	SO	88012911	113933	000500	120	V IN ECLIPSE
CVJGS	Z CHA	54	12.0	0808501	-762309	L	1	12590	L	32	SO	88013004	040000	002200	302	G C=106,B=38
JI024	Z CHA	54	13.71	0808501	-762309	L	1	12587	L	58	SO	88012912	122225	002000	401	V PREAD
CVJGS	Z CHA	54	12.0	0808501	-762309	L	3	32816	L	30	SO	88013004	043100	002500	331	G E=76,C=58,B=22
JITOO	Z CHA	54	13.71	0808501	-762309	L	3	32810	L	58	SO	88012913	130245	002000	340	V
CVJGS	Z CHA	54	12.0	0808501	-762309	L	3	32817	L	31	SO	88013005	053200	000500	20	G E=27,B=18
JITOO	Z CHA	54	+13.87	0808501	-762309	L	1	12588	L	20	SO	88012913	133505	002000	401	V
CVJGS	Z CHA	54	12.0	0808501	-762309	L	1	12591	L	28	SO	88013005	054400	002200	302	G C=104,B=38
JITOO	Z CHA	54	+13.73	0808501	-762309	L	3	32811	L	54	SO	88012914	142814	002000	340	V
CVJGS	Z CHA	54	12.0	0808501	-762309	L	3	32818	L	28	SO	88013006	061500	003500	331	G E=101,C=71,B=23
JI024	Z CHA	54	14.00	0808501	-762309	L	3	32827	L		BO	88013104	041718	017500	301	V
CVJGS	Z CHA	54	14.0	0808501	-762309	L	9	02032	2			88013103	033000	000020		G
CVJGS	Z CHA	54	14.0	0808501	-762309	L	9	02033	2			88013103	033100	000240		G
LDJDB	HD 69897	41	5.1	0817018	+272252	L	1	12708	L	17151	FO	88022101	014800	000055	503	G C=232,B=41
JI093	PKS0823-22	85	15.50	0823501	-222034	L	3	32683	L		BO	88010708	080815	030000	112	V
SAJCW	HD 71369	45	3.36	0826075	+605313	L	1	12567	L	847	FU	88012506	062500	000042	502	G C=215,B=35
IBJJE	47 23470	47	8.6	0829353	-472946	L	1	12552	L	876	FO	88012305	051000	000800	02	G B=35
IBJJE	47 23470	47	8.6	0829353	-472946	L	3	32766	L	895	FO	88012305	052800	001000	400	G C=120,B=18
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12139	L	713	FO	87112108	084200	003000	354	G E=212,C=118,B=51
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32371	L	773	FO	87112109	091900	006000	331	G E=65,C=50,B=23
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12140	L	757	FO	87112110	102600	002000	342	G E=161,C=83,B=36
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12147	L	691	FO	87112208	084400	003500	3X3	G E=1X,C=135,B=47
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32379	L	723	FO	87112209	092800	007500	331	G E=73,C=50,B=27
IBJJE	47 2347	47	8.6	0829354	-472947	L	1	12151	L	671	FO	87112307	074300	003000	3X7	G E=1X,C=155,B=82
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12156	L	671	FO	87112403	035200	002500	352	G E=225,C=100,B=37
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32385	L	728	FO	87112404	042300	007000	331	G E=63,C=50,B=27
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12157	L	780	FO	87112405	054200	002500	354	G E=221,C=110,B=55
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12158	L	780	FO	87112406	063900	001300	345	G E=168,C=105,B=67
IBJJE	47 2347	47	8.6	0829354	-472947	L	3	32392	L	732	FO	87112506	064300	003000	09	G B=114
IBJJE	47 2347	47	8.6	0829354	-472947	L	1	12164	L	753	FO	87112507	072200	006000	?X9	G E=3X,C=2,B=197

Vilspa Data Base 16-NOV-88 Page 106

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12169	L	724	FO	87112603	033600	002500	352	G E=193,C=96,B=38
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32396	L	748	FO	87112604	040900	007500	335	G E=101,C=84,B=61
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12170	L	752	FO	87112605	053200	002000	349	G E=214,C=158,B=110
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12183	L	946	FO	87112803	034600	000900	502	G C=213,B=35,N=3
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32413	L	974	FO	87112804	041400	002000		G C=179
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12184	L	978	FO	87112804	045000	000900	502	G C=225,B=40,N=3
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32414	L	968	FO	87112805	052600	002000	403	G C=198,B=49,N=2
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12185	L	964	FO	87112806	060200	000900	X07	G C=1.1X,B=83
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32422	L	869	FO	87112909	090500	002000	500	G C=202,B=18
KGJGM	47 2347	66	8.6	0829354	-472947	L	1	12192	L	919	FO	87112909	095300	000900	X02	G C=1.1X,B=37
KGJGM	47 2347	66	8.6	0829354	-472947	L	3	32423	L	923	FO	87112910	101800	002000	500	G C=198,B=20
SBJCG	J 108	33	7.8	0834446	+195430	L	1	12277	L	1933	FO	87121407	071600	000200	502	G C=240,B=39
SBJCG	J 108	33	7.8	0834446	+195430	L	3	32519	L	2032	FO	87121407	072400	000600	401	G C=138,B=23
SBJCG	J 145	33	7.6	0836138	+195112	L	1	12273	L	2489	FO	87121401	014100	000900	02	G B=40
SBJCG	J 145	33	7.6	0836138	+195112	L	3	32515	L	2424	FO	87121401	015800	002200	02	G B=32
SBJCG	J 145	33	7.6	0836138	+195112	L	1	12274	L	2409	FO	87121402	023300	000200	02	G B=38
SBJCG	J 145	33	7.6	0836138	+195112	L	3	32516	L	2452	FO	87121403	033100	000700		G
SBJCG	J 248	33	7.9	0838269	+192623	L	1	12275	L	1662	FO	87121404	042800	000230	02	G B=38
SBJCG	J 248	33	7.9	0838269	+192623	L	3	32517	L	1631	FO	87121404	043700	000630	301	G C=112,B=27
SBJCG	J 276	30	8.0	0839148	+193527	L	1	12276	L	1631	FO	87121405	054900	000212	502	G C=250,B=40
SBJCG	J 276	30	8.0	0839148	+193527	L	3	32518	L	1590	FO	87121405	055900	000740	402	G C=153,B=37
JE191	HD74462	47	09.26	0843453	+673809	L	1	12603	L	770	FO	88013113	134748	002500	502	V
IGJJS	TON 951	85	14.0	0844338	+345608	L	1	12206	L		BO	87113019	191400	010000	404	G C=160,B=59
IGJJS	TON 951	85	14.0	0844338	+345608	L	3	32433	L		BO	87113021	210200	010000	343	G E=1655,C=83,B=47
IGJJS	TON 951	85	14.0	0844338	+345608	L	1	12207	L		BO	87113023	230000	010000	405	G C=170,B=68,N=3
IGJJS	TON 951	85	14.0	0844338	+345608	L	3	32434	L		BO	87120100	005700	007300	332	G E=64,C=60,B=33,N=2
WDJDK	LSS 1150	16	12.5	0844548	-351308	L	1	12874	L	126	SO	88031723	235800	000900	04	G B=59
WDJDK	LSS 1150	16	12.5	0844548	-351308	L	3	33109	L	131	SO	88031800	001500	000600	501	G C=220,B=21
DAJJH	PG 0846+249	37	16.3	0846091	+245617	L	3	32202	L		BO	87110101	012100	009000	401	G C=153,B=21
SBJCG	F 190	33	11.0	0848500	+120221	L	3	32526	L	422	SO	87121504	040000	006000	307	G C=143,B=83
SBJCG	F 190	33	11.0	0848500	+120221	L	1	12281	L	426	SO	87121505	050800	003500	09	G B=115
SBJCG	F 280	30	10.7	0849260	+115527	L	3	32525	L	134	FO	87121501	014900	007500	503	G C=205,B=42
SBJCG	F 280	30	10.7	0849260	+115527	L	1	12280	L	132	FO	87121503	031400	002000	503	G C=240,B=50
CVJJP	BZ UMA	63	15.3	0849529	+580002	L	3	32778	L		BO	88012420	201400	016000	334	G E=126,C=93,B=52
CVJJP	BZ UMA	63	15.3	0849529	+580002	L	3	32783	L		FO	88012519	192000	021000	334	G E=119,C=88,B=52
CVJJP	BZ UMA	63	15.3	0849529	+580002	L	1	12570	L		BO	88012615	155300	018000	305	G C=130,B=61
KGJGM	HD 76805	66	4.7	0854487	-523152	H	1	12138	L	26719	FU	87112107	073000	000130	504	G C=212,B=51
KGJGM	HD 76805	66	4.7	0854487	-523152	H	3	32370	L	27209	FU	87112107	073500	000210	503	G C=200,B=41
KGJGM	HD 76805	66	4.69	0854487	-523152	H	3	32397	L	26487	FO	87112606	061900	000210	503	G C=206,B=45
KGJGM	HD 76805	66	4.69	0854487	-523152	H	3	32415	L	315	FU	87112807	070700	000200	403	G C=192,B=47
KGJGM	HD 76805	66	4.69	0854487	-523152	H	1	12191	L	25885	FO	87112907	072400	000130	504	G C=230,B=56
KGJGM	HD 76805	66	4.69	0854487	-523152	H	3	32421	L	26064	FO	87112907	072900	000200	503	G C=193,B=41
IEJDM	HD 77002	20	4.92	0855449	-590212	L	3	32571	L	23113	FO	87122107	071300	000004	500	G C=200,B=17
IEJDM	HD 77002	20	4.92	0855449	-590212	L	1	12338	L	23245	FO	87122107	072400	000003	?09	G C=35,B=184
JC116	WY CNC	44	09.92	0858580	+265248	L	1	12251	L	425	FO	87120915	151004	003500	562	V

Vilspa Data Base 16-NOV-88 Page 107

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SDJGW	08599+41	19	14.5	0859538	+412940	L	3	32940	L		BO	88021821	214000	012000	406	G C=205,B=72
SDJGW	08599+41	19	14.5	0859538	+412940	L	1	12690	L		BO	88021823	235800	005000	309	G C=206,B=115
XBJRM	HD 77581	59	6.8	0900130	-402125	H	3	32961	L	3924	FO	88022217	174000	014100	404	G C=197,B=57
XBJRM	HD 77581	59	6.8	0900130	-402125	H	3	32967	L	3958	FO	88022317	173600	000221	406	G C=200,B=73
XBJRM	HD 77581	59	6.8	0900130	-402125	H	3	33085	L	4123	FO	88031217	172200	013027	405	G C=195,B=65
ISJPF	HD 77557	30	6.4	0901112	+280550	H	1	12899	L	5270	FO	88032117	174600	003000	403	G C=160,B=50
ISJPF	HD 77557	30	6.4	0901112	+280550	H	3	33137	L	5701	FO	88032217	173700	006000	403	G C=151,B=47
JI086	T PYX	55	15.22	0902371	-321046	L	3	32218	L	15	SO	87110212	121244	028000	333	V
JI086	T PYX	55	15.22	0902371	-321046	L	1	11996	L	15	SO	87110217	170013	011000	302	V PREAD
JI097	T PYX	55	15.00	0902372	-321047	L	1	12644	L		BO	88021105	052034	012000	302	V
JI097	T PYX	55	15.00	0902372	-321047	L	3	32899	L		BO	88021107	072719	021300	331	V
JI125	T PYX	55	14.00	0902372	-321048	L	1	12791	L		BO	88030307	072937	021300	403	V PREAD
JI125	T PYX	55	14.50	0902372	-321048	L	3	33034	L		BO	88030404	042913	039300	442	V PREAD
USSBS	HD 78556	22	5.5	0906153	-082310	H	3	32804	L	12989	FO	88012905	054100	001600	502	G C=207,B=37
PHCAL	NULL	99		0906451	+482555	L	1	12228	L			87120417	175700	000000	02	G B=39
PHCAL	SKY	07		0906451	+482555	L	1	12229	L			87120418	182900	034000	02	G B=39
LZJDT	QSO 0906+484	85	16.1	0906453	+482556	L	3	32463	L		BO	87120417	173300	043500	347	G E=224,C=140,B=87
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32946	L	17181	FO	88022000	000000	000700	503	G C=236,B=45
HEJSS	HD 79158	27	5.4	0910325	+432531	H	1	12699	L	18562	FO	88022000	003500	000500	04	G B=58
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32947	L	16625	FO	88022001	010700	000700	503	G C=239,B=47
HEJSS	HD 79158	27	5.4	0910325	+432531	H	1	12700	L	17396	FO	88022001	014300	000500	04	G B=59
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32971	L	17192	FO	88022400	001800	000700	08	G B=100
HEJSS	HD 79158	27	5.4	0910325	+432531	H	1	12729	L	17362	FO	88022401	010100	000330	407	G C=221,B=85
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32972	L	17292	FO	88022401	011200	000700	09	G B=102
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32981	L	17278	FO	88022500	000200	000700	09	G B=125
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32982	L	17302	FO	88022500	004400	000700	09	G B=145
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32989	L	17230	FO	88022623	235200	000700	04	G B=58
HEJSS	HD 79158	27	5.4	0910325	+432531	H	1	12747	L	17092	FO	88022700	003400	000330	504	G C=212,B=60
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32990	L	16945	FO	88022700	004500	000700	X04	G C=1.5X,B=60
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32991	L	17563	FO	88022701	014100	000700	03	G B=49
SAJCW	HD 79439	31	4.84	0912361	+541346	L	1	12563	L	270	FU	88012423	234600	000027	02	G B=36
SAJCW	HD 79439	31	4.84	0912361	+541346	L	3	32779	L	275	FU	88012501	010700	000036	400	G C=139,B=19
SAJCW	HD 79439	31	4.84	0912361	+541346	L	1	12564	L	265	FU	88012501	011400	000016	402	G C=166,B=35
SAJCW	HD 79439	31	4.84	0912361	+541346	L	3	32780	L	274	FU	88012505	052300	000148	01	G B=22
JE010	MKN110	84	15.00	0921444	+523005	L	3	32998	L		BO	88022804	042026	040300	363	V
JE010	MKN110	84	15.00	0921444	+523005	L	1	12760	L		BO	88022904	044905	003000	332	V
JE010	MKN110	84	15.00	0921444	+523005	L	3	33002	L		BO	88022905	053446	006000	251	V
JE010	MKN110	84	15.00	0921444	+523005	L	1	12761	L		BO	88022906	064332	009000	353	V
LDJDB	HD 82328	41	3.2	0929315	+515423	L	1	12330	L	1073	FU	87122006	062900	000010	503	G C=222,B=42
XNASA	C.WILSON	06	13.53	0941454	+024831	L	1	12036	L	68	SO	87110712	120317	030500	333	V ON NUCLEUS
PHCAL	R LEO	51	06.47	0944521	+113941	H	3	33110	L	8959	FO	88031804	042301	038500	115	V
MGJEB	R LEO	51	7.0	0944521	+113941	L	1	12222	L	5757	FO	87120407	072600	000600	252	G E=219,C=45,B=38
SYJDC	MKN 1239	84	15	0949462	-012235	L	3	32282	L		BO	87111000	003600	013000	253	G E=213,C=65,B=45
LDJDB	HD 86728	44	5.4	0958080	+321014	L	1	12508	L	15205	FO	88011702	021100	000130	503	G C=225,B=44
SDJJL	PG 1000+408	28	13.3	1000523	+404850	H	3	32306	L	70	SO	87111221	212200	032700	308	G C=165,B=92

Vilspa Data Base 16-NOV-88 Page 108

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
BEJTS	HD 87543	26	6.1	1002015	-613828	H	1	12314	L	9219	FO	87121908	081900	000600	400	G C=125,B=17
CMJFB	HD 87696	30	4.5	1004290	+352924	H	1	12055	L	311	FU	87111009	092100	000620	503	G C=235,B=42
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32307	L	5730	FU	87111303	034200	000001	500	G C=185,B=20
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32308	L	5772	FU	87111304	042100	000001	501	G C=202,B=21
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32309	L	5812	FU	87111305	050100	000001	501	G C=200,B=21
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32310	L	5856	FU	87111305	053900	000001	501	G C=205,B=22
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32311	L	5868	FU	87111306	061800	000001	501	G C=198,B=21
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32710	L	5990	FU	88011301	011700	000000	00	G B=17
PHCAL	HD 87901	22	1.4	1005427	+121244	L	3	32711	L	5955		88011301	014900	000000	500	G C=252,B=18,MOD FU
LSJJB	HR 3999	51	5.6	1007460	-611814	L	1	12303	L	2067	FO	87121805	055000	002000	39	G E=165,B=131
LSJJB	HR 3999	51	5.6	1007460	-611814	H	1	12304	L	1986	FO	87121806	064800	012000	07	G B=90
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12007	L	6958	FO	87110403	034600	000500	32	G E=92,B=35
LSJJB	HR 3999	51	5.6	1007462	-611814	L	3	32221	L	7077	FO	87110403	035700	004000	01	G B=25
LSJJB	HR 3999	51	5.6	1007462	-611814	H	1	12008	L	7208	FO	87110404	044300	013000	35	G E=110,B=63
LSJJB	HR 3999	51	8	1007462	-611814	L	3	32264	L	6077	FO	87110619	195700	041000	08	G B=98
LSJJB	HR 3999	51	8	1007462	-611814	H	1	12033	L	5971	FO	87110702	025500	019500	35	G E=161,B=65
LSJJB	HR 3999	51	8	1007462	-611814	L	1	12034	L	5479	FO	87110706	064500	001000	343	G E=167,C=70,B=45
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12037	L	5719	FO	87110803	033100	001000	42	G E=145,B=36
LSJJB	HR 3999	51	5.6	1007462	-611814	L	3	32270	L	5750	FO	87110803	034700	004000	30	G E=67,B=20
LSJJB	HR 3999	51	5.6	1007462	-611814	H	1	12038	L	5751	FO	87110804	043300	013500	35	G E=141,B=70
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12043	L	5751	FO	87110903	034200	001000	32	G E=125,B=36
LSJJB	HR 3999	51	5.6	1007462	-611814	L	3	32276	L	5762	FO	87110903	035800	004000	30	G E=66,B=15
LSJJB	HR 3999	51	5.6	1007462	-611814	H	1	12044	L	5471	FO	87110904	044600	013000	35	G E=129,B=62
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12171	L	2487	FO	87112607	074000	001500	338	G E=186,C=130,B=92
LSJJB	HR 3999	51	5.6	1007462	-611814	H	1	12172	L	2429	FO	87112608	084100	012700	35	G E=113,B=61
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12186	L	2318	FO	87112807	075700	001500	335	G E=135,C=91,B=61
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12187	L	2348	FO	87112808	084700	012000	3X5	G E=3X,C=99,B=61
LSJJB	HR 3999	51	5.6	1007462	-611814	H	1	12197	L	2198	FO	87113003	034200	010300		G B=1.5X
LSJJB	HR 3999	51	5.6	1007462	-611814	L	1	12198	L	2095	FO	87113006	062400	001500	339	G E=195,C=159,B=116
PHCAL	T FLOOD	99		1007462	-611814	L	3	32426	S			87113007	071300	000005	?9	G E=10X,B=101
PHCAL	WAVECAL	98		1007462	-611814	L	3	32426	S			87113007	071500	000002	?9	G E=10X,B=101
PHCAL	T FLOOD	99		1007462	-611814	H	3	32427	S			87113007	074000	000005	?9	G E=60X,B=125
PHCAL	WAVECAL	98		1007462	-611814	H	3	32427	S			87113007	074200	000200		G
PHCAL	T FLOOD	99		1007462	-611814	L	1	12199	S			87113008	080500	000025	?9	G E=10X,B=101
PHCAL	WAVECAL	98		1007462	-611814	L	1	12199	S			87113008	080700	000001	?9	G E=10X,B=101
PHCAL	T FLOOD	99		1007462	-611814	H	1	12200	S			87113008	083600	000025	?9	G E=60X,B=101
PHCAL	WAVECAL	98		1007462	-611814	H	1	12200	S			87113008	083800	000016	?9	G E=60X,B=101
GPJCM	PG 1010+064	37	16.6	1010510	+062700	L	3	32699	L		BO	88011102	025700	012000	308	G C=190,B=98
GPJCM	PG 1010+064	37	16.6	1010510	+062700	L	1	12471	L		BO	88011105	050400	010500	304	G C=130,B=58
JE191	HD88609	45	09.08	1011142	+534835	L	1	12602	L	900	FO	88013112	121958	002500	402	V
BEJTS	HD 88825	26	6.1	1011196	-594012	H	1	12313	L	9844	FO	87121907	072800	000500	403	G C=170,B=46
BEJTS	HD 88825	26	6.1	1011196	-594012	H	3	32561	L	9781	FO	87121907	074200	001200	502	G C=195,B=40
BEJTS	HD 89080	26	3.3	1012331	-694721	H	3	32560	L	1045	FU	87121906	060700	000200	503	G C=240,B=45
BEJTS	HD 89080	26	3.3	1012331	-694721	H	1	12312	L	1045	FU	87121906	061300	000100	503	G C=220,B=50
GIJBS	HD 237884	20	10.2	1014579	+543707	H	3	33115	L	255	FO	88031916	162300	015000	06	G B=77

Vilspa Data Base 16-NOV-88 Page 109

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
IGJTS	HD 89353	70	5.3	1015499	-284428	L	1	12311	L	11922	FO	87121905	052000	000100	403	G C=185,B=42
IGJTS	HD 89353	70	5.3	1015499	-284428	L	1	12674	L	10913	FO	88021601	014700	001200	03	G B=46
LDJDB	HD 89449	41	4.8	1017010	+194331	L	1	12329	L	23339	FU	87122005	053200	000040	504	G C=222,B=51
QSJRG	TON 34	85	15.8	1017077	+275907	L	3	32375	L		BO	87112121	211800	032500	06	G B=73
JE191	HD90508	44	06.96	1024593	+490309	L	1	12601	L	5886	FO	88013111	111325	000120	601	V
JE191	HD 90508	44	06.96	1024593	+490309	L	3	32828	L	6182	FO	88013111	112025	000500	200	V
JC006	HD90912	44	09.50	1026271	-590535	L	1	12272	L	618	FO	87121310	100635	004000	302	V ON FES 2013
JC006	HD90912	44		1026271	-590535	D	9	02013	2			87121310	100000	010000		V
CBJNE	HD 90912	53	8.7	1026272	-590536	L	3	32514	L	640	FO	87121318	182900	038000	309	G C=190,B=150
XQJME	B2 1028+31	85	16.70	1028097	+311820	L	1	12386	L		BO	87122710	104935	036000	405	V
JE076	MKN 33	88	13.94	1029226	+543931	L	1	12578	L	47	SO	88012808	081556	039500	795	V PREAD
JA065	HD93308	61	06.16	1043070	-592500	H	1	12719	L	11602	FO	88022207	075238	002600	651	V
JA065	HD93308	61	06.16	1043070	-592500	H	3	32960	L	11547	FO	88022208	083020	013700	781	V
JA065	HD93308	61	06.08	1043070	-592500	H	1	12720	L	12371	FO	88022210	105602	001000	451	V
PHCAL	HD 93521	12	7.0	1045336	+375004	L	1	12189	L	4547	FO	87112903	033700	000003	402	G C=176,B=37
PHCAL	HD 93521	12	7.0	1045336	+375004	L	3	32418	L	4551	FO	87112903	034300	000003	400	G C=150,B=17
PHCAL	HD 93521	12	7.0	1045336	+375004	L	2	18155	L	5238	FO	87120208	083000	000004	301	G C=120,B=25
PHCAL	HD 93521	12	7.0	1045336	+375004	L	2	18159	L	4549	FO	87123103	030900	000004	401	G C=143,B=28
PHCAL	HD 93521	12	7.0	1045336	+375004	L	3	32707	L	4852	FO	88011206	064500	000003	400	G C=148,B=18
PHCAL	HD 93521	12	7.0	1045336	+375004	L	1	12480		4889	FO	88011302	023400	000003	402	G C=157,B=35
PHCAL	HD 93521	12	7.0	1045336	+375004	L	1	12628	L	4471	FO	88020801	013300	000003	402	G C=180,B=37
PHCAL	HD 93521	12	7.0	1045336	+375004	L	3	32882	L	4468	FO	88020801	013900	000003	500	G C=170,B=12
PHCAL	HD 93521	12	7.0	1045336	+375004	L	2	18168	L	4129	FO	88020814	141400	000004	501	G C=174,B=22
PHCAL	HD 93521	12	7.0	1045336	+375004	H	3	33178	S	4167	FO	88032923	232900	000545	302	G C=130,B=32
PHCAL	HD 93521	12	7.0	1045336	+375004	H	3	33179	S	5217	FO	88033000	001000	000545	401	G C=135,B=30
PHCAL	HD 93521	12	7.0	1045336	+375004	H	3	33180	L	4160	FO	88033000	005200	000350	402	G C=140,B=35
PHCAL	HD 93521	12	7.0	1045336	+375004	H	3	33181	L	5224	FO	88033001	013000	000350	402	G C=145,B=35
PHCAL	HD 93521	12	7.0	1045336	+375004	L	3	33182	L	4198	FO	88033002	020600	000003	400	G C=166,B=18
PHCAL	HD 93521	12	7.0	1045336	+375004	L	1	12947	L	4153	FO	88033002	021100	000003	502	G C=200,B=35
PHCAL	HD 93521	12	7.0	1045336	+375004	H	1	12952	S	4340	FO	88033100	001800	000645	402	G C=180,B=40
PHCAL	HD 93521	12	7.0	1045336	+375004	H	1	12953	S	5358	FO	88033100	005900	000645	403	G C=181,B=43
PHCAL	HD 93521	12	7.0	1045336	+375004	H	1	12954	L	4309	FO	88033101	014100	000430		G
PHCAL	HD 93521	12	7.0	1045336	+375004	H	1	12955	L	5340	FO	88033102	022100	000430	403	G C=195,B=45
GKJBS	HD 93521	12	7.04	1045339	+375003	H	3	32975	L	4384	FO	88022412	122700	002000	06	G B=78
QSJMM	PG 1049-005	85	16.0	1049179	-003519	L	1	12333	L		BO	87122022	225200	012000	307	G C=126,B=82
JA064	AG CAR	23	08.36	1054105	-601111	L	1	12358	L	1711	FO	87122216	160748	000040	401	V
JA064	AG CAR	23	08.18	1054105	-601111	L	3	32588	L	2020	FO	87122216	163956	000300	401	V
JA064	AG CAR-B	23	14.00	1054122	-601100	L	1	12555	L		BO	88012312	121355	015300	302	V EFFECTIVE EXP. TIME=
JA064	AG CAR-B	23	08.46	1054122	-601100	L	1	12711	L	1568	FO	88022108	081738	016600	331	V
XQJCU	MKN 421	87	14.0	1101405	+382843	L	3	32209	L	75	SO	87110120	202600	016000	403	G C=150,B=45
XQJCU	MKN 421	87	14.0	1101405	+382843	L	1	11992	L	74	SO	87110123	231400	011000	501	G C=210,B=25
JQ148	NGC 3516	84	13.10	1103228	+725024	L	3	32273	L	100	SO	87110813	130353	025500	352	V RP:+2,-212
JQ148	NGC 3516	84	13.10	1103228	+725024	L	1	12042	L	100	SO	87110817	172614	008500	452	V RP: 2, -212; PREAD
JQ148	NGC 3516	84	13.08	1103228	+725024	L	3	32280	L	102	SO	87110914	143516	016800	341	V RP OFFSET 5 ARCSEC.
JQ148	NGC 3516	84	13.08	1103228	+725024	L	1	12049	L	102	SO	87110917	175837	004800	331	V RP OFFSET 5 ARCSEC.

Vilspa Data Base 16-NOV-88 Page 110

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA016	HD96548	11	07.93	1104180	-651421	H	3	32949	L	2506	FO	88022005	053507	003800	551	V
JA016	HD96548	11	07.84	1104180	-651421	H	1	12701	L	2732	FO	88022006	061845	002800	502	V
JA016	HD96548	11	07.83	1104180	-651421	H	3	32950	L	2740	FO	88022006	065357	003800	551	V
JA016	HD96548	11	08.09	1104180	-651421	H	3	32952	L	2225	FO	88022105	055014	003800	452	V
JA016	HD96548	11	08.09	1104180	-651421	H	1	12710	L	2185	FO	88022106	063319	002800	502	V
JA016	HD96548	11	08.10	1104180	-651421	H	3	32953	L	2156	FO	88022107	071811	003000	442	V
JA016	HD96548	11	08.03	1104180	-651421	H	3	32958	L	2300	FO	88022205	054434	003800	452	V
JA016	HD96548	11	08.04	1104180	-651421	H	1	12718	L	2281	FO	88022206	062620	002800	402	V
JA016	HD96548	11	08.09	1104180	-651421	H	3	32959	L	2172	FO	88022207	070350	002600	442	V
JA016	HD96548	11	08.07	1104180	-651421	H	3	32963	L	2218	FO	88022304	043527	003800	452	V
JA016	HD96548	11	08.03	1104180	-651421	H	1	12725	L	2295	FO	88022305	051952	002800	402	V
JA016	HD96548	11	08.06	1104180	-651421	H	3	32964	L	2243	FO	88022305	055413	003800	452	V
SDJGW	1104+602	37	13.8	1104430	+601448	L	3	32936	L	42	SO	88021720	204100	008000	01	G B=23
SDJGW	1104+602	37	13.8	1104430	+601448	L	1	12683	L	37	SO	88021722	221200	004000	502	G C=199,B=40
SAJCW	HD 96833	48	3.0	1106516	+444612	L	1	12754	L	1378	FU	88022722	222600	000130	502	G C=220,B=35
GPJCM	PG 1109+244	37	15.9	1109588	+242519	L	1	12465	L		BO	88010915	155800	019200	07	G B=82
GPJCM	PG 1109+244	37	15.9	1109590	+242518	L	3	32695	L		BO	88010923	232500	007500	502	G C=190,B=38
GPJCM	PG 1109+244	37	15.9	1109590	+242518	L	1	12469	L		BO	88011006	060300	004700	303	G C=120,B=50
JE191	HD97916	41	09.72	1113193	+022135	L	3	32820	L	509	FO	88013009	095452	004500	301	V PREAD
JE191	HD97916	41	09.73	1113193	+022135	L	1	12594	L	503	FO	88013010	104626	000500	501	V PREAD
GIJBS	HD 98152	30	9.0	1115104	+410638	H	1	12888	L	691	FO	88031912	121600	022000	409	G C=236,B=105
GPJCM	PG 1121+145	37	16.6	1121386	+143014	L	1	12470	L		BO	88011015	155800	016500	406	G C=180,B=77
GPJCM	PG 1121+145	37	16.6	1121390	+143018	L	3	32698	L		BO	88011023	231400	017000	303	G C=145,B=50
JQ113	MARK 423 S	84	15.00	1124078	+353125	L	3	33183	L		BO	88033004	042228	037000	303	V OBS, OF THE SOUTHERN
IEJDM	HD 99872	21	6.1	1126150	-721154	L	1	12334	L	8822	FO	87122101	013800	000012	02	G B=33
IEJDM	HD 99872	21	6.1	1126150	-721154	L	1	12334	S	8858	FO	87122101	014300	000100	02	G B=35
JQ118	NGC 3783	84	13.0	1136329	-372743	L	3	33068	L	70	SO	88030818	181100	003800	331	G E=108,C=60,B=25
AGJAB	H1143-18	84	14.6	1143083	-181037	L	3	32417	L	32	SO	87112820	204100	036000	3X7	G E=2X,C=176,B=88
AGJAB	H1143-18	84	14.6	1143083	-181037	L	1	12194	L	30	SO	87112920	200900	009000	455	G E=231,C=180,B=63
AGJAB	H1143-18	84	14.6	1143083	-181037	L	3	32424	L	41	SO	87112921	214700	004500	342	G E=142,C=65,B=40
AGJAB	H1143-18	84	14.6	1143083	-181037	L	1	12195	L	38	SO	87112922	224100	015000	XX9	G E=1.5X,C=1.2X,B=110
AGJAB	H1143-18	84	14.6	1143083	-181037	L	3	32425	L	28	SO	87113001	012200	002500	232	G E=100,C=50,B=35
AGJAB	H1143-18	84	14.6	1143083	-181037	L	1	12196	L	28	SO	87113001	015600	005500	346	G E=200,C=150,B=72
XJQME	PKS1146-03	85	16.90	1146224	-034729	L	3	32758	L		BO	88012008	082606	036000	223	V PREAD
CCJEB	HD 102870	41	3.6	1148054	+020248	H	3	32912	L	696	FU	88021312	120700	031500	08	G B=96
JI003	NOVA MUS 83	55	17.00	1149350	-665539	L	3	32730	L		BO	88011508	083142	037600	332	V
SYJDC	MKN 42	84	15	1151056	+462923	L	3	32281	L		BO	87110919	195400	018000	332	G E=96,C=80,B=36
QFJCG	IC 2943	85	15.3	1151057	+462923	L	3	32954	L		BO	88022112	122100	040000	336	G E=119,C=95,B=72
PHCAL	NULL	99		1151057	+462923	L	1	12712	L			88022112	125100	000000	02	G B=40
PHCAL	SKY	07		1151057	+462923	H	1	12713	L			88022113	132700	030000	07	G B=82
GQJRG	1156+63	85	16.5	1156038	+631103	L	1	12148	L		BO	87112221	215000	028800	337	G E=164,C=143,B=81
GQJRG	4C 10.30	85	16.5	1156038	+631103	L	1	12505	L		BO	88011617	175400	026700	09	G B=218
AGJJS	NGC 4051	84	11.8	1200360	+444843	L	1	12092	L	74	SO	87111419	194900	012000	454	G E=248,C=165,B=60
AGJJS	NGC 4051	84	11.8	1200360	+444843	L	3	32325	L	69	SO	87111421	215800	026500	346	G E=188,C=130,B=79
NRJWB	PKS 1209-52	75		1204563	-513521	L	9	02048	2			88032312	122700	000020		G

Vilspa Data Base 16-NOV-88 Page 111

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
NRJWB	PKS 1209-52	75		1204563	-513521	L	3	33147	L		BO	88032312	123200	038300	337	G E=123,C=120,B=85
NRJWB	PKS 1209-52	75		1204563	-513521	L	1	12912	L		BO	88032312	123500	036500	09	G B=101
AGJGR	NGC 4151	84	11.5	1208003	+394101	L	3	32566	L	156	SO	87122018	180700	002000	341	G E=137,C=45,B=22
AGJGR	NGC 4151	84	11.5	1208003	+394101	L	1	12343	L	168	SO	87122118	182100	002500	343	G E=168,C=100,B=41
JQ118	NGC 4151	84	11.8	1208003	+394101	H	3	33063	L	179	SO	88030711	113300	078300	339	G E=202,C=245,B=150
JQ118	NGC 4151	84	11.8	1208003	+394101	L	1	12823	L			88030714	144400	060500	309	G C=191,B=138
JQ118	NGC 4151	84	11.8	1208003	+394101	H	1	12829	L	178	SO	88030812	121200	073300	339	G E=204,C=226,B=145
JQ118	SKY	07		1208003	+394101	L	3	33067	L			88030812	121400	069300	309	G C=150,B=106
IQ128	NGC4151	84	12.65	1208004	+394102	L	3	32373	L	149	SO	87112115	154928	004500	351	V
IQ128	NGC4151	84	12.62	1208004	+394102	L	1	12142	L	153	SO	87112116	164207	003500	353	V
IQ128	NGC4151	84	12.67	1208004	+394102	L	3	32374	L	147	SO	87112117	172729	004500	351	V
IQ128	NGC4151	84	12.67	1208004	+394102	L	1	12143	L	147	SO	87112118	181957	003500	353	V
IQ128	NGC 4151	84	12.65	1208004	+394102	L	3	32402	L	149	SO	87112616	160025	004500	350	V
IQ128	NGC 4151	84	12.69	1208004	+394102	L	1	12173	L	144	SO	87112616	165419	003500	351	V
IQ128	NGC 4151	84	12.69	1208004	+394102	L	3	32403	L	144	SO	87112617	173532	004500	350	V
IQ128	NGC 4151	84	12.69	1208004	+394102	L	1	12174	L	144	SO	87112618	182507	002700	351	V
IQ128	NGC4151	84	12.63	1208004	+394102	L	3	32431	L	152	SO	87113015	154933	004500	351	V
IQ128	NGC4151	84	12.78	1208004	+394102	L	1	12205	L	133	SO	87113016	164634	003500	352	V
IQ128	NGC 4151	84	12.67	1208004	+394102	L	3	32432	L	147	SO	87113017	172649	004500	351	V PREAD
IQ128	NGC4151	84	12.73	1208004	+394102	L	3	32461	L	139	SO	87120413	132856	004500	250	V
IQ128	NGC4151	84	12.71	1208004	+394102	L	1	12226	L	142	SO	87120414	141948	003500	352	V
IQ138	NGC4151	84	12.71	1208004	+394102	L	3	32462	L	141	SO	87120415	150050	005500	360	V
IQ128	NGC4151	84	12.68	1208004	+394102	L	1	12227	L	145	SO	87120416	160342	003500	352	V
JQ118	NGC 4151	84	12.45	1208004	+394102	E	9	02042	2	179	SO	88030703	032500	004000		V FES FOR SWP 33063
JQ118	NGC 4151	84	12.45	1208004	+394102	E	9	02043	2	178	SO	88030803	035900	016000		V FES FOR LWP 12829
MLJEB	HD 106111	53	6.1	1210042	-695226	H	3	32685	L	9155	FO	88010815	153700	024000	406	G C=227,B=79
MLJEB	HD 106111	53	6.1	1210042	-695226	L	1	12460	L	9507	FO	88010819	194500	000500	02	G B=39
MLJEB	HD 106111	53	6.1	1210042	-695226	H	3	32686	L	9773	FO	88010820	201500	015500	405	G C=185,B=70
MLJEB	HD 106111	53	6.1	1210042	-695226	H	3	32718	L	6352	FO	88011315	153400	024000	407	G C=225,B=84
MLJEB	HD 106111	53	6.1	1210042	-695226	L	1	12488	L	6263	FO	88011319	194200	000500	02	G B=37
MLJEB	HD 106111	53	6.1	1210042	-695226	H	3	32719	L	6244	FO	88011320	201300	015800		G C=180,B73
CMJFB	HD 106591	30	3.3	1212580	+571836	H	1	12056	L	1034	FU	87111010	100400	000215	X03	G C=1.2X,B=44
USSBS	HD 106591	30	3.31	1212580	+571836	H	1	12648	L	946	FU	88021201	011500	000200	503	G C=200,B=42
USSBS	HD 106591	30	3.31	1212580	+571836	H	3	32902	L	965	FU	88021201	012100	000400	402	G C=180,B=34
JE076	NGC 4214	88	13.79	1213084	+363630	L	1	12941	L	54	SO	88032903	032910	018000	603	V
JE076	NGC 4214	88	13.65	1213084	+363630	L	3	33174	L	61	SO	88032906	064538	024000	501	V
QSJMM	PG 1216+069	85	15.7	1216472	+065519	L	3	32567	L		BO	87122019	192600	013500	333	G E=126,C=76,B=46
QSJMM	PG 1216+069	85	15.7	1216476	+065518	L	1	12285	L		BO	87121518	181200	018000	335	G E=140,C=126,B=63
GIJBS	BD +49 2137	25	10.7	1222348	+492508	H	3	33123	L	156	FO	88032012	120900	033500	409	G C=216,B=104
JE191	HD108177	41	10.19	1223015	+013402	L	1	12610	L	336	FO	88020305	055739	001000	501	V
DGJTT	MKN 209	88	14.8	1223506	+484607	L	1	12696	L		BO	88021912	124700	036000	309	G C=190,B=136
JM041	NGC 4449	82	13.00	1225431	+442155	L	3	33143	L		BO	88032307	071209	003000	301	V
JM041	NGC 4449	82	13.00	1225432	+442153	L	3	33146	L		BO	88032310	102745	002200	301	V PREAD
JM041	NGC 4449	82	13.00	1225433	+442150	L	3	33142	L		BO	88032305	055857	003000	301	V
JM041	NGC 4449	82	13.00	1225433	+442150	L	3	33151	L		BO	88032406	063210	015000	502	V

Vilspa Data Base 16-NOV-88 Page 112

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JM041	NGC4449	82	13.00	1225433	+442150	L	1	12917	L		BO	88032409	095201	005500	302	V PREAD
QAJDY	NGC 4449	88	13.0	1225434	+442142	H	3	33127			BO	88032111	113300	054000	309	G C=188,B=105
QAJDY	SKY	07		1225434	+442142	H	1	12898			BO	88032111	113700	029300	07	G B=82
QAJDY	NGC 4449	88	13.0	1225434	+442142	L	3	33128			BO	88032114	141700	003000	202	G C=42,B=33
QAJDY	NGC 4449	88	14.0	1225434	+442142	L	3	33129			BO	88032115	152100	003000		G
QAJDY	NGC 4449	88	14.0	1225434	+442142	L	3	33130			BO	88032116	162600	003000	202	G C=46,B=35
QAJDY	NGC 4449	88	13.0	1225434	+442142	H	3	33133	L		BO	88032211	113700	057000	308	G C=190,B=98
QAJDY	NGC 4449	88	13.0	1225434	+442142	H	1	12906	L		BO	88032211	113900	055500	309	G C=198,B=115
QAJDY	NGC 4449	88	13.0	1225434	+442142	L	3	33134	L		BO	88032214	142200	003000	300	G C=50,B=20
QAJDY	NGC 4449	88	13.0	1225434	+442142	L	3	33135	L		BO	88032215	152200	003000	300	G C=47,B=17
QAJDY	NGC 4449	88	13.0	1225434	+442142	L	3	33136	L		BO	88032216	162100	003000	300	G C=56,B=20
JM041	NGC 4449	82	13.00	1225435	+442143	E	9	02046	2		BO	88032104	045000	004000		V FOR SWP33127
JM041	NGC 4449	82	13.00	1225435	+442143	E	9	02047	2		BO	88032204	041000	012000		V FOR SWP33133
JM041	NGC 4449	82	00.00	1225435	+442143	L	3	33141	L		BO	88032304	045233	003000	301	V
JM041	NGC 4449	82	13.00	1225437	+442141	L	3	33144	L		BO	88032308	081954	003000	301	V
JM041	NGC4449	82	13.00	1225439	+442136	L	3	33145	L		BO	88032309	092421	003000	301	V
JQ147	3C273	85	13.14	1226332	+021943	L	3	32459	L	96	SO	87120409	094757	003000	350	V
JQ147	3C273	85	13.22	1226332	+021943	L	1	12224	L	90	SO	87120410	103602	003000	503	V
JQ147	3C273	85	13.25	1226332	+021943	L	3	32460	L	87	SO	87120411	111454	006500	461	V
JQ147	3C273	85	99.99	1226332	+021943	L	1	12225	L			87120412	122521	002500	503	V
JQ147	3C273	85	13.35	1226332	+021943	L	1	12395	L	80	SO	87122913	135550	003000	501	V
JQ147	3C273	85	13.36	1226332	+021943	L	3	32638	L	79	SO	87122914	143336	003000	350	V
JQ147	3C273	85	13.33	1226332	+021943	L	1	12396	L	81	SO	87122915	151022	003000	501	V
JQ147	3C273	85	13.33	1226332	+021943	L	3	32639	L	81	SO	87122915	154503	006200	460	V
JQ147	3C273	85	13.27	1226332	+021943	L	1	12493	L	86	SO	88011410	101249	003000	402	V
JQ147	3C273	85	13.25	1226332	+021943	L	3	32725	L	87	SO	88011410	105426	003000	350	V
JQ147	3C273	85	13.28	1226332	+021943	L	1	12494	L	85	SO	88011411	113828	003500	502	V
JQ147	3C273	85	13.32	1226332	+021943	L	3	32726	L	82	SO	88011412	122030	006500	460	V
JQ147	3C273	85	13.32	1226332	+021943	L	3	32889	L	82	SO	88020905	052516	003000	540	V
JQ147	3C273	85	13.25	1226332	+021943	L	1	12632	L	87	SO	88020906	060310	003000	502	V
JQ147	3C273	85	13.23	1226332	+021943	L	3	32890	L	89	SO	88020906	063953	006500	560	V
JE058	NGC 4486	81	9.9	1228173	+124005	L	3	32871	L	198	SO	88020613	134300	074800	309	G C=190,B=138
JE058	NGC 4486	81		1228174	+124006	E	9	02037	2	198	SO	88020605	054300	004000		V FES FOR SWP 32871
JE058	NGC4486	81	12.30	1228174	+124006	L	1	12621	L	203	SO	88020705	050918	035300	305	V
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	12894	L	5073	FO	88032019	195800	009000	408	G C=232,B=95
MGJKC	HD 108903	49	1.6	1228227	-565000	H	3	33124	L	5138	FU	88032021	213500	003000	03	G B=43
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	12895	L	5065	FU	88032022	223900	000200	42	G E=153,B=36
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	12949	L	5276	FU	88033019	193800	009000	409	G C=235,B=105
MGJKC	HD 108903	49	1.6	1228227	-565000	L	3	33186	L	5308	FU	88033021	211500	003000	333	G E=133,C=82,B=50
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	12950	L	5367	FU	88033022	220300	000200	32	G E=125,B=38
MGJKC	HD 108903	49	1.6	1228227	-565000	L	1	12951	L	5580	FU	88033022	223700	000040	3X2	G E=2X,C=120,B=35
JI037	HD 109387	26	04.03	1231216	+700349	H	3	32739	L	700	FU	88011613	132045	000125	501	V
JI037	HD 109387	26	04.03	1231216	+700349	H	1	12503	L	700	FU	88011613	131631	000105	503	V
IBJDW	AM CVN	66	14.2	1232282	+375414	L	3	33088	L		BO	88031321	210100	006000	403	G C=182,B=50
IBJDW	AM CVN	66	14.2	1232282	+375414	L	1	12848	L		BO	88031322	220700	004000	409	G C=225,B=108

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmsstt	ECC	Comment
IBJDW	AM CVN	66	14.2	1232282	+375414	L	3	33089	L		BO	88031322	225400	004500	308	G C=183,B=92
IBJDW	AM CVN	66	14.2	1232282	+375414	L	1	12849	L		BO	88031323	234700	003000	309	G C=185,B=107
SYJGR	NGC 4593	84	13.4	1237046	-050409	L	1	12278	L	75	SO	87121411	115400	002500	454	G E=250,C=179,B=51
SYJGR	NGC 4593	84	13.4	1237046	-050409	L	3	32523	L	79	SO	87121418	181100	012000	333	G E=113,C=90,B=41
SYJGR	NGC 4593	84	13.4	1237046	-050409	L	3	32524	L	82	SL	87121420	205600	012000	333	G E=140,C=103,B=46
SYJGR	NGC 4593	84	13.4	1237046	-050409	L	3	32522	L	75	SO	87121421	210200	012000	331	G COM E=106,C=99,B=27
SYJGR	NGC 4593	84	13.4	1237046	-050409	L	1	12279	L	123	SO	87121423	230600	009300	405	G C=194,B=62
JM032	NGC4593	84	13.42	1237047	-050410	L	3	32496	L	75	SO	87121013	135828	017100	341	V PREAD
JQ075	NGC4593	84	13.36	1237047	-050410	L	3	32520	L	79	SO	87121409	095050	012000	231	V
JQ075	NGC4593	84	13.39	1237047	-050410	L	3	32521	L	77	SO	87121412	123431	012000	231	V
JQ075	NGC4593	84	13.42	1237047	-050410	E	9	02014	2	75	SO	87121415	153000	004000		V FES FOR SWP32522
LDJDB	HD 110897	44	5.9	1242377	+393301	L	1	12332	L	9973	FO	87122008	080700	000220	502	G C=225,B=36
JE076	NGC4670	88	13.97	1242499	+272356	L	1	12640	L	46	SO	88021005	050538	018000	502	V
JE076	NGC4670	88	13.99	1242499	+272356	L	3	32895	L	45	SO	88021008	081348	016500	431	V
LZJDT	QSO 1254+047	85	15.8	1254276	+044347	L	1	12258	L		BO	87121118	180800	031344	339	G E=213,C=183,B=116
GPJCM	PG 1302+283	37	15.4	1302240	+282330	L	3	32696	L		BO	88011002	022000	004500	305	G C=160,B=70
GPJCM	PG 1302+283	37	15.4	1302246	+282332	L	1	12467	L		BO	88011001	011500	006000	407	G C=190,B=85
CCJEB	HD 114710	44	4.3	1309324	+280723	H	3	32905	L	390	FU	88021212	120900	041500	09	G B=105
SDJGW	13106+31	19	14.6	1310351	+315654	L	3	32939	L		BO	88021817	171000	012000	302	G C=64,B=38
SDJGW	13106+31	19	14.6	1310352	+313655	L	1	12682	L		BO	88021717	170500	005500	303	G C=67,B=42
LDJDB	HD 114946	44	5.3	1311300	-194007	L	1	12509	L	15380	FO	88011703	032000	000150	505	G C=250,B=70
LSJSB	BD +46 1862	49	7.2	1317168	+454722	L	1	12783	L	5408	FO	88030212	122700	006000	333	G E=78,C=63,B=42
LSJSB	BD +46 1862	49	7.2	1317168	+454722	L	3	33026	L	5265	FO	88030213	133900	022000	303	G C=85,B=48
MGJJE	V CVN	49	7.5	1317169	+454723	L	1	12165	L	3478	FO	87112509	091500	004000	333	G E=81,C=65,B=41
JI157	V803 CEN	66	17.00	1320498	-412850	E	9	02044	2		BO	88031005	050000	004000		V FOR SWP33076
JI134	V803 CEN	66	99.99	1320498	-412850	L	3	33084	L		BO	88031204	042853	027500	332	V
JI134	V803 CEN	66	99.99	1320498	-412850	L	1	12843	L		BO	88031206	065549	009000	301	V
JI157	V803 CEN	66	99.90	1320499	-412851	L	3	33090	L		BO	88031401	011637	056700	335	V
IBJDW	V803 CEN	66	17	1320500	-412856	L	3	33076	L		BO	88031011	115300	080000	09	G B=125
IBJDW	V803 CEN	29	14.0	1320500	-412856	L	9	02045	2			88031400	004900	000240		G
GDJWC	HD 116658	20	0.98	1322332	-105402	H	3	33082	L	8566	FU	88031122	222700	000002	402	G C=180,B=34
GDJWC	HD 116658	20	0.98	1322332	-105402	H	1	12841	L	8631	FU	88031122	224000	000001	503	G C=210,B=43
GDJWC	HD 116658	20	0.98	1322332	-105402	H	3	33091	L	8858	FU	88031422	225600	000002	402	G C=175,B=36
CMJFB	HD 118232	30	4.7	1332248	+491616	H	1	12053	L	267	FU	87111007	071200	000730	503	G C=215,B=45
QSJMM	PG 1333+176	85	15.6	1333367	+174031	L	3	32589	L		BO	87122218	185200	015000	303	G C=80,B=41
WDJHS	GD 325	29	13.9	1333589	+484358	L	3	33173	S	32	FU	88032811	115800	030000	07	G B=90
OD38Y	HD 120315	21	1.86	1345339	+493333	L	1	12652	L	3967	FU	88021223	232800	000100	302	G C=68,B=32
OD38Y	HD 120315	21	1.86	1345339	+493333	L	3	32908	L	3967	FU	88021223	233400	000100	300	G C=40,B=18
OD38Y	HD 120315	21	1.86	1345339	+493333	L	1	12653	L	397	FU	88021300	003500	000045	302	G C=100,B=34
OD38Y	HD 120315	21	1.86	1345339	+493333	L	1	12653	L	397	FU	88021300	003600	000045	302	G C=100,B=34
OD38Y	HD 120315	21	1.86	1345339	+493333	L	3	32909	S	3977	FU	88021300	003900	000045	300	G C=70,B=12
OD38Y	HD 120315	21	1.86	1345339	+493333	L	3	32909	S	3977	FU	88021300	004000	000045	300	G C=70,B=12
OD38Y	HD 120315	21	1.86	1345339	+493333	L	1	12654	S	4411	FU	88021301	013700	000500	302	G C=130,B=35
OD38Y	HD 120315	21	1.86	1345339	+493333	L	1	12654	S	4411	FU	88021301	013800	000500	302	G C=130,B=35
PHCAL	HD 120315	21	1.84	1345342	+493343	L	3	32473	L	4037	FU	87120806	060900	000001	500	G C=194,B=18

Vilspa Data Base 16-NOV-88 Page 114

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	L	1	12241	L	4099	FU	87120806	062700	000000	502	G C=195,B=38
PHCAL	HD 120315	21	1.84	1345342	+493343	L	3	32474	L	4134	FU	87120807	073700	000001	500	G C=200,B=18
PHCAL	HD 120315	21	1.84	1345342	+493343	L	1	12242	L	4118	FU	87120807	075400	000000	502	G C=195,B=36
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32366	L	4578	FU	87112010	104000	000006	402	G C=170,B=32
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12374	L	3925	FU	87122603	035700	000005	503	G C=219,B=44
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12375	L	3920	FU	87122604	043100	000006	503	G C=240,B=46
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12376	L	3980	FU	87122605	050400	000002	303	G C=141,B=42
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12377	L	3911	FU	87122605	053800	000008	03	G B=50
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12378	L	3935	FU	87122606	061000	000005	503	G C=224,B=43
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12380	L	4148	FU	87122607	071700	000003	403	G C=162,B=41
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12381	L	3922	FU	87122607	075100	000001	303	G C=97,B=42
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12382	L	3972	FU	87122608	082300	000005	503	G C=223,B=44
PHCAL	HD 120315	21	1.8	1345343	+493344	H	2	18160	L	4053	FU	87123103	035100	000008	502	G C=198,B=34
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32651	L	2961	FU	88010202	023400	000007	502	G C=205,B=38
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32652	L	3975	FU	88010203	030700	000003	301	G C=105,B=27
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32653	L	3958	FU	88010203	033600	000009	503	G C=230,B=41
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32654	L	3975	FU	88010204	040600	000012	03	G B=49
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32655	L	3996	FU	88010204	043500	000007	502	G C=203,B=40
PHCAL	HD 120315	21	1.8	1345343	+493344	H	1	12481	L	4265	FU	88011303	032800	000005	403	G C=190,B=42
PHCAL	HD 120315	21	1.8	1345343	+493344	H	3	32712	L	4285	FU	88011303	033300	000006		G
IBJDW	PG 1346+082	66	14.0	1346258	+081228	L	3	33087	L		BO	88031312	125600	042000	309	G C=180,B=124
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	3	33077	L		BO	88031020	201000	006000	301	G C=65,B=25
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	1	12836	L		BO	88031021	211600	006000	305	G C=155,B=70
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	3	33078	L		BO	88031022	225500	009000	336	G E=117,C=124,B=80
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	3	33079	L		BO	88031100	004800	012000	303	G C=105,B=47
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	1	12842	L		BO	88031123	235800	004500	309	G C=166,B=128
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	3	33083	L		BO	88031200	005000	011700	304	G C=90,B=59
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	1	12847	L		BO	88031300	000800	009000	309	G C=206,B=165
IBJDW	PG 1346+082	66	14.0	1346259	+081227	L	3	33086	L		BO	88031301	014500	062000	309	G C=180,B=103
JC127	HD 120323	49	04.11	1346324	-341206	L	3	33094	L	655	FU	88031503	035425	041300	362	V
PHCAL	NULL	99		1349512	+122440		1	12876				88031812	122300	000000	02	G B=35
PHCAL	SAFETYRD	99	6.0	1349512	+122440	L	2	18173				88031812	122700	000000	300	G C=60,B=19
PHCAL	T FLOOD	99		1349512	+122440	L	1	12877				88031812	125200	000025	03	G B=50
PHCAL	NULL	99		1349512	+122440	L	2	18174				88031813	135600	000000	01	G B=25
PHCAL	T FLOOD	99		1349512	+122440	L	2	18175				88031814	141700	000010	09	G B=125
JI094	PG 1351+64	85	14.96	1351461	+640028	L	3	32672	L	19	SO	88010610	102343	017000	351	V
JI094	PG1351+64	85	14.96	1351461	+640028	L	1	12446	L	19	SO	88010613	132244	008400	303	V
JQ093	PG 1351+64	85	99.90	1351461	+640028	L	3	32986	L		BO	88022604	044813	025000	461	V
JQ093	PG 1351+64	85	99.90	1351461	+640028	L	1	12744	L		BO	88022609	090822	012000	342	V PREAD
PHCAL	HD 121263	20	2.54	1352244	-470234	L	1	12600	L	2405		88013023	235900	000000	502	G C=223,B=37
PHCAL	HD 121263	20	2.54	1352244	-470234	L	3	32826	L	2390	FU	88013100	001600	000000	500	G C=208,B=14
MGJJE	HD 122250	49	5.5	1400233	-763325	L	1	12452	L	25340	FO	88010723	233400	002000	243	G E=146,C=60,B=41
MGJJE	HD 122250	49	5.5	1400233	-763325	L	1	12549	L	258	FU	88012223	234200	002000	332	G E=136,C=61,B=40
GHJAS	UGC 8967	81	13.6	1400593	+094241	L	3	32987	L		BO	88022612	120500	032000	09	G B=140
CCJEB	HD 123034	44	8.8	1402363	+101507	L	3	32913	L	713	FO	88021318	181800	003900	300	G C=45,B=17

Vilspa Data Base 16-NOV-88 Page 115

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
USSBS	HD 123123	47	3.25	1403311	-262637	H	1	12412	L	942	FU	88010206	062200	002500	X42	G E=177,C=260,B=36
SDJGW	1406+590	37	13.4	1406538	+595421	L	1	12691	L	58	SO	88021901	014900	000600	303	G C=113,B=41
KGJTA	HD 124897	47	0.2	141322	+192631	H	1	12820	L	16089	FU	88030622	224800	000240	551	G E=247,C=195,B=30
KGJTA	HD 124897	47	0.2	141322	+192631	H	1	12821	L	17331	FU	88030623	232300	000240	452	G E=235,C=185,B=36
KGJTA	HD 124897	47	0.2	141322	+192631	L	3	33060	L	17700	FU	88030623	233000	005000	251	G E=237,C=50,B=30
KGJTA	HD 124897	47	0.2	141322	+192631	L	3	33061	L	15940	FU	88030700	001800	002000	374	G E=20X,C=128,B=55
KGJTA	HD 124897	47	0.2	141322	+192631	H	1	12822	L	16706	FO	88030701	011300	005000		G E=48X,C=15X
KGJTA	HD 124897	47	0.2	141322	+192631	L	3	33062	L	16335	FU	88030702	024000	000220	50	G E=204,B=18
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33027	L	18425	FU	88030221	215200	000600	50	G E=231,B=10
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33027	L	16078	FU	88030222	220300	000200	452	G E=187,C=150,B=36
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12787	L	19066	FU	88030222	221600	000200	451	G E=201,C=152.B=28
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12788	L	16078	FU	88030223	231800	000200	452	G E=187,C=150,B=36
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33028	L	15093	FU	88030223	234700	004500	304	G C=110,B=55
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33029	L	16006	FU	88030301	010500	004500	303	G C=108,B=45
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33032	L	17906		88030323	235500	000700	50	G E=214,B=18
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12795	L	17928	FU	88030400	001800	000220	50	G E=214,B=18
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12796	L	17297	FU	88030401	011600	000220	451	G E=202,C=163,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33033	L	16195	FU	88030401	013200	004500	302	G C=102,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33040	L	18226	FU	88030500	001600	000700	50	G E=227,B=20
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12800	L	17176	FU	88030500	003900	000240	452	G E=237,C=180,B=31
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12801	L	17288	FU	88030501	013900	000240	451	G E=214,C=150,B=28
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33041	L	15406	FU	88030501	015900	004500	302	G C=110,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33051	L	18002	FU	88030523	234600	000700	50	G E=215,B=20
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12809	L	17850	FU	88030600	000800	000240	452	G E=248,C=180,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12810	L	17142	FU	88030601	011600	000240	452	G E=217,C=172,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33052	L	16060	FU	88030601	013900	004500	372	G E=20X,C=130,B=33
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33065	L	16131	FU	88030800	001500	000700	250	G E=214,C=30,B=18
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12827	L	17563	FU	88030800	003600	000240	401	G C=140,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12828	L	16227	FU	88030801	013900	000240	451	G E=214,C=160,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33066	L	16317	FU	88030802	020200	004500	3X0	G E=257,C=100,B=20
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33074	L	16064	FU	88031000	002500	000700	230	G E=94,C=37,B=17
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12834	L	18000	FU	88031000	004500	000240	402	G C=155,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12835	L	15906	FU	88031001	015300	000310	401	G C=175,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33075	L	17373	FU	88031002	020100	004000	350	G E=237,C=85,B=20
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33092	L	15960	FU	88031423	235300	000700	330	G E=87,C=50,B=19
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12854	L	18473	FU	88031500	001500	000240	402	G C=180,B=32
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12855	L	16055	FU	88031501	011500	000240	401	G C=160,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33093	L	16165	FU	88031501	013800	004500	451	G E=249,C=125,B=23
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33095	L	17128	FU	88031523	233800	000700	250	G E=231,C=40,B=20
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12861	L	17753	FU	88031600	000300	000240	302	G C=127,B=36
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12862	L	16905	FU	88031601	012100	000240	401	G C=160,B=30
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33096	L	16466	FU	88031601	014600	004500	301	G C=88,B=27
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33102	L	16024	FU	88031623	235600	000700	351	G E=223,C=43,B=22
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12867	L	18141	FU	88031700	002200	000240	402	G C=160,B=38
KGJTA	HD 124897	47	0.2	1413228	+192631	H	1	12868	L	17049	FU	88031701	012500	000310	402	G C=167,B=34

Vilspa Data Base 16-NOV-88 Page 116

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
KGJTA	HD 124897	47	0.2	1413228	+192631	L	3	33103	L	15958	FU	88031701	015100	004500	301	G C=110,B=30
CMJFB	HD 125161	30	4.8	1414240	+513548	H	1	12054	L	246	FU	87111008	081200	001120	X04	G C=1.2X,B=51
JQ045	NGC5548	84	13.94	1415432	+252200	L	3	32636	L	47	SO	87122910	100517	011000	350	V
JQ045	NGC 5548	84	13.92	1415432	+252200	L	3	32637	L	48	SO	87122912	122437	004500	340	V
JQ045	NGC5548	84	13.97	1415432	+252200	L	3	32775	L	46	SO	88012412	120348	011000	350	V
JQ045	NGC5548	84	13.97	1415432	+252200	L	3	32776	L	46	SO	88012414	142128	002900	330	V PREAD
JQ045	NGC5548	84	13.97	1415432	+252200	L	3	32883	L	46	SO	88020804	044815	012000	351	V
JQ045	NGC5548	84	13.94	1415432	+252200	L	3	32884	L	47	SO	88020807	072410	001500	230	V
JQ045	NGC 5548	84	13.92	1415432	+252200	L	3	32992	L	48	SO	88022704	044955	010000	451	V
JQ045	NGC 5548	84	13.97	1415432	+252200	L	3	32993	L	46	SO	88022706	065958	003500	341	V
JQ045	NGC 5548	84	13.99	1415432	+252200	L	1	12863	L	45	SO	88031603	032157	006000	452	V
JQ045	NGC 5548	84	13.97	1415432	+252200	L	3	33097	L	46	SO	88031604	043428	010000	352	V
JQ045	NGC 5548	84	13.87	1415432	+252200	L	3	33098	L	50	SO	88031606	064459	001800	230	V
PHCAL	NULL	99		1416212	-125657	L	1	12792				88030312	123000	000000	02	G B=35
PHCAL	SKY	07		1416212	-125657	H	1	12793	L		BO	88030312	125800	033000	08	G B=92
LZJDT	QSO 1416-129	85	15.4	1416213	-125658	L	3	33030	L		BO	88030312	120800	041500	357	G E=234,C=128,B=82
IBJBB	HD 127208	39	6.9	1427501	-221422	L	3	32756	L	4418	FO	88012003	034000	000045	400	G C=162,B=18
IBJBB	HD 127208	39	6.9	1427501	-221422	H	1	12533	L	4420	FO	88012003	034900	001600	449	G E=207,C=216,B=104
GIJBS	HD 127557	30	8.9	1427581	+673442	L	1	12893	L	608	FO	88032018	182700	000300	402	G C=152,B=35
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32590	L	1055	FO	87122305	052300	002400	404	G C=155,B=54
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32591	L	1069	FO	87122306	061900	003200	403	G C=167,B=46
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32592	L	1045	FO	87122307	072200	005000	503	G C=205,B=48
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32668	L	1102	FO	88010601	015100	003800	403	G C=180,B=41
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32669	L	1098	FO	88010603	030000	003800	403	G C=185,B=43
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32670	L	1076	FO	88010604	040800	003800	403	G C=190,B=45
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32671	L	1108	FO	88010605	051600	006000	504	G C=250,B=58
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	32956	L	1155	FO	88022200	003500	003800	405	G C=204,B=68
MLJFB	HD 128220	16	8.5	1432560	+192519	H	3	33118	L	1075	FO	88032001	013600	003800	403	G C=185,B=43
MLJFB	HD 128220	16	8.5	1432560	+192519	H	1	12892	L	1291	FO	88032002	023100	001500	303	G C=129,B=42
JE191	HD128279	45	08.46	1433512	-285327	L	1	12592	L	1567	FO	88013007	074424	000900	701	V PREAD
JE191	HD128959	41	99.99	1437483	-263059	L	1	12611	L	488	FO	88020307	071603	001300	501	V
USSBS	HD 128898	40	3.17	1438252	-644540	H	3	32825	L	1410	FU	88013021	214200	003000	05	G B=70
USSBS	HD 128898	40	3.17	1438252	-644540	H	1	12599	L	1483	FU	88013022	222700	000224	02	G B=40
SAJCW	HD 132813	49	4.58	1456485	+660751	L	1	12565	L	490	FU	88012502	024200	002400	309	G C=209,B=114
SAJCW	HD 132813	49	4.58	1456485	+660751	L	1	12566	L	491	FU	88012504	041300	000430	352	G E=242,C=64,B=38
PHCAL	NULL	99	0.0	1459367	-414731	L	1	12926	L			88032612	121100	000000	02	G B=40
SRJRF	S-M STAR	16	16.7	1459368	-414732	L	3	33156	L		BO	88032512	120600	040000	307	G C=168,B=83
SRJRF	S-M STAR	16	16.7	1459368	-414732	L	3	33164	L		BO	88032611	115000	041500	407	G C=190,B=88
PHCAL	SKY	07		1459368	-414732	L	1	12927	L			88032612	123700	033000	08	G B=95
LDJDB	HD 134439	46	9.1	1507257	-161040	L	1	12934	L	622	FO	88032713	134800	007500	03	G B=48
LDJDB	HD 134439	46	9.1	1507257	-161040	L	1	12936	L	570	FO	88032717	172800	003000	402	G C=185,B=38
JQ103	Q1512 +37	85	15.50	1512469	+370153	L	1	12932	L		BO	88032704	043920	036800	406	V
JQ103	Q 1512+37	85	15.50	1512469	+370153	L	3	33172	L		BO	88032804	043824	036900	352	V
JE130	Q1512+37	85	15.50	1512470	+370154	L	1	12368	L		BO	87122410	101155	039500	404	V
JE130	Q1512+37	85	15.50	1512470	+370154	L	3	32618	L		BO	87122510	101451	039300	353	V

Vilspa Data Base 16-NOV-88 Page 117

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
LDJDB	HD 136202	41	5.1	1516454	+015712	L	1	12510	L	19163	FO	88011704	042300	000045	502	G C=230,B=38
JI037	HD 138749	26	04.47	1530547	+313136	H	3	32738	L	473	FU	88011611	114505	000145	501	V
JI037	HD138749	26	04.41	1530547	+313136	H	3	32773	L	500	FU	88012409	092320	000145	500	V
QSJMM	PG 1543+489	85	16.1	1543598	+485530	L	3	32529	L		BO	87121522	220200	016800	02	G B=35
QSJMM	PG 1543+489	85	16.1	1543598	+485530	L	1	12359	L		BO	87122222	221500	013500	335	G E=134,C=104,B=68
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	2	18161	L	142	FO	87123104	044700	000420	401	G C=150,B=27
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	1	12482	L	145	FO	88011304	044400	000310	502	G C=187,B=36
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	3	32713	L	147	FO	88011304	045400	000400	400	G C=160,B=18
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	2	18170	L	138	FO	88020900	005000	000420	401	G C=170,B=25
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	1	12639	L	137	FO	88021002	021300	000310	502	G C=212,B=34
JE191	HD142267	54	06.59	1550522	+132107	L	1	12593	L	8136	FO	88013008	085512	000050	602	V PREAD
JE191	HD142267	45	06.57	1550522	+132107	L	3	32819	L	8261	FO	88013008	083055	001500	300	V PREAD
IC038	HD142560	58	11.74	1553240	-374058	L	1	12693	L	84	FO	88021905	052724	003000	682	V
IC038	HD142560	55	11.64	1553240	-374058	H	1	12694	L	368	SO	88021906	063625	006000	142	V ALSO 12 MIN. LORES
IC038	HD142560	55	11.64	1553240	-374058	L	1	12694	L	368	SO	88021907	073600	001200	582	V ALSO 60 MIN. HIRES
SDJGW	15537+20	19	16.0	1553437	+200540	L	3	32935	L		BO	88021712	122100	024000	204	G C=70,B=56
SDJGW	15537+20	19	16.0	1553437	+200540	L	1	12688	L		BO	88021812	123400	024000	307	G C=118,B=83
PHCAL	HD 142669	20	3.9	1553475	-290411	L	3	32877	L	706	FU	88020701	014600	000001	500	G C=200,B=15
PHCAL	HD 142669	20	3.9	1553475	-290411	L	1	12620	L	707	FU	88020701	015800	000001	502	G C=195,B=40
JI082	T CRB	55	10.23	1557240	+260339	L	3	32973	L	323	FO	88022405	053057	006000	551	V
JI082	T CRB	55	10.19	1557240	+260339	H	3	32974	L	335	FO	88022407	072411	021800	132	V
JI082	T CRB	55	10.21	1557240	+260339	L	1	12730	L	330	FO	88022409	093936	001500	341	V
IGJTS	HD 143183	39	8.20	1557394	-535942	L	1	12673	L	4388	FO	88021523	232400	001500	302	G C=130,B=35
IGJTS	HD 143183	39	8.20	1557394	-535942	L	3	32930	L	4524	FO	88021523	234900	003000	300	G C=57,B=16
LDJDB	HD 143761	44	5.4	1559078	+332712	L	1	12511	L	14565	FO	88011705	052100	000106	502	G C=230,B=33
JM032	G082+47	74	14.40	1559559	+532010	L	3	32494	L		BO	87121009	093725	001500	110	V
JM032	G082+47	74	14.40	1559559	+532010	H	1	12253	L		BO	87121010	101458	004300	112	V
JM032	GO 82+47	74	14.40	1559559	+532010	L	3	32495	L		BO	87121011	113333	001500	110	V
JM032	G082+47	74	14.38	1559560	+532011	H	1	12254	L		BO	87121012	121744	003700	112	V
JA114	HD144667	27	07.05	1605129	-385737	H	3	33009	L	5470	FO	88030103	035459	002700	500	V
JA114	HD144667	27	07.05	1605129	-385737	H	1	12767	L	5446	FO	88030104	042838	001700	600	V
JA114	HD144667	27	07.06	1605129	-385737	H	3	33010	L	5421	FO	88030104	045835	003000	600	V
JA114	HD144667	27	07.05	1605129	-385737	H	1	12768	L	5469	FO	88030105	054140	001700	600	V
JA114	HD144667	27	07.04	1605130	-385738	H	3	33011	L	5504	FO	88030106	061712	003500	600	V
JA114	HD144667	27	07.04	1605130	-385738	H	1	12769	L	5516	FO	88030106	065928	001700	600	V
TTJFW	OPH60	44	10.1	1614305	-225606	L	3	32896	L	228	FO	88021012	123400	055000	308	G C=130,B=100
TTJFW	OPH60	44	10.1	1614305	-225606	L	1	12641	L	213	FO	88021022	222300	006000	03	G B=43
SDJGW	1615-154	37	13.4	1615059	-152829	L	1	12689	L	63	SO	88021820	201600	001500	502	G C=197,B=38
TTJFW	OPH65	46	10.0	1622182	-242001	L	3	32868	L	271	FO	88020514	140800	057500	309	G C=145,B=120
TTJFW	OPH65	46	10.0	1622182	-242001	L	1	12615	L	249	FO	88020523	235200	006000	504	G C=250,B=52
SAJCW	HD 149212	32	5.01	1628041	+685233	L	3	32914	L	20506	FO	88021319	195500	000025	500	G C=168,B=14
SAJCW	HD 149212	32	5.01	1628041	+685233	L	1	12658	L	20950	FO	88021320	200500	000017	502	G C=203,B=32
CMJFB	HD 149630	30	4.2	1632293	+423221	H	1	12052	L	447	FU	87111005	052200	000240	503	G C=210,B=41
CMJFB	HD 149630	30	4.2	1632293	+423221	H	3	32283	L	447	FU	87111005	053300	002500	X07	G C=4X,B=84
CMJFB	HD 149630	22	4.2	1632293	+423221	H	3	32955	L	429	FU	88022120	200100	001800	05	G B=67

Vilspa Data Base 16-NOV-88 Page 118

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	HD 149438	20	2.8	1632459	-280651	L	1	12766	L	1791	FU	88030100	002500	000000	503	G C=198,B=45
PHCAL	HD 149438	20	2.8	1632459	-280651	L	3	33008	L	1896	FU	88030100	004000	000027	501	G C=228,B=21
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	11999	L	669	FO	87110304	041500	001500	502	G C=207,B=36
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12095	L	663	FO	87111505	055700	002000	X07	G C=1.5X,B=85
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12218	L	504	FO	87120401	011700	001500	302	G C=92,B=35
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12269	L	451	FO	87121305	052800	002000	307	G C=140,B=90
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12606	L	803	FO	88020221	215300	002000	02	G B=39
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12638	L	705	FO	88021001	012500	000700	302	G C=130,B=34
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	12833	L	387	FO	88030923	232600	000700	303	G C=76,B=41
PHCAL	HD 149757	12	2.5	1634241	-102803	L	3	32894	L	2039	FU	88021000	000200	000001	400	G C=158,B=16
PHCAL	HD 149757	12	2.5	1634241	-102803	L	1	12637	L	2066	FU	88021000	001400	000000	402	G C=183,B=33
MGJJE	HD 150450	49	4.90	1637231	+490130	L	1	12166	L	24271	FO	87112510	103600	000800	452	G E=218,C=172,B=35
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	12458	L	22910	FO	88010806	063200	000800	452	G E=198,C=158,B=37
CCJTS	HD 152598	40	5.32	1651040	+314658	L	3	32999	L	14749	FO	88022900	002200	002000	29	G E=132,B=125
LDJD8	HD 153597	41	4.9	1655448	+651239	L	1	12331	L	22019	FO	87122007	072000	000045	502	G C=216,B=35
JI072	HZ HER	59	13.83	1656016	+352506	H	3	32796	L	52	SO	88012708	081317	036000	203	V SOME RP DRIFT
JI072	HZ HER	59	13.50	1656017	+352507	H	3	32792	L	24	SO	88012607	075944	040700	203	V
CVJJP	HD 154791	59	7.0	1704296	+240213	L	3	32782	L	2493	FO	88012515	155500	012000	02	G B=35
SDJJL	PG 1708+602	16	13.7	1708359	+601352	H	3	32298	L	42	SO	87111121	213000	032000	307	G C=147,B=81
PHCAL	HD155763	25	03.44	1708381	+654634	L	1	12770	L	1189	FU	88030108	083524	000000	500	V
PHCAL	HD155763	25	03.47	1708381	+654634	L	3	33012	L	1155	FU	88030108	084035	000001	500	V
PHCAL	HD155763	25	03.47	1708381	+654634	L	3	33013	L	1157	FU	88030109	094316	000001	500	V
PHCAL	HD155763	25	03.47	1708381	+654634	L	1	12771	L	1157	FU	88030109	093715	000000	500	V
PHCAL	HD155763	25	03.47	1708381	+654634	L	1	12772	L	1161	FU	88030110	104146	000000	500	V PREAD
PHCAL	HD155763	25	03.47	1708381	+654634	L	3	33014	L	1161	FU	88030110	104553	000001	500	V PREAD
IPJRP	EX017122	63	12.3	1712239	-665353	L	3	33159	L	133	SO	88032523	233600	001200	00	G B=18
IPJRP	EX017122	63	12.3	1712239	-665353	L	1	12923	L	139	SO	88032523	235600	001000	03	G B=41
NPJWF	PKS 75+351	70	13.6	1712306	+491920	H	3	32458	L	504	FO	87120317	170700	040300	309	G C=175,B=105
IPJRP	EX017122	63	12.3	1712389	-665335	L	3	33160	L	108	FO	88032601	010800	001200	00	G B=18
USSBS	HD 156164	30	3.14	1712584	+245342	H	1	12762	L	1279	FU	88022911	115600	000142	503	G C=225,B=45
GKJBS	-5011162	23	10.6	1714480	-502900	H	3	32976	L	93	FO	88022414	140600	020500	309	G C=190,B=120
GKJBS	-5011162	23	10.6	1714480	-502900	H	3	33004	L	163	FO	88022913	131300	034334	09	G B=162
JE010	ARP102B	84	15.00	1717563	+490150	L	3	33003	L		BO	88022909	091450	010900	121	V
LDJD8	HD 157089	41	6.9	1718355	+012916	L	1	12706	L	3778	FO	88022022	223600	000300	502	G C=213,B=35
LDJD8	HD 157214	44	5.39	1718471	+323150	L	1	12512	L	15095	FO	88011706	062300	000112	502	G C=225,B=33
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12736	L	5148	FU	88022519	193800	000011	X05	G C=3X,B=65
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12737	L	5064	FU	88022520	204300	000006	504	G C=225,B=51
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12738	L	5123	FU	88022521	213800	000006	504	G C=230,B=52
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12739	L	5341	FU	88022522	222000	000006	X04	G C=1.5X,B=51
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12740	L	5195	FU	88022523	231100	000006	503	G C=245,B=50
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12741	L	5097	FU	88022523	235700	000006	304	G C=130,B=51
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12742	L	5115	FU	88022600	004100	000006	503	G C=242,B=50
ISJPF	HD 158926	20	1.6	1730126	-370410	H	1	12743	L	5039	FU	88022601	012600	000006	504	G C=235,B=53
ICJJH	SAO 122702	30	8.5	1742502	+051413	L	1	12775	L	594	FO	88030116	162700	001000		G
ICJJH	SAO 122702	30	8.5	1742502	+051413	L	3	33017	L	744	FO	88030116	165000	003000	500	G C=208,B=16

Vilspa Data Base 16-NOV-88 Page 119

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ICJJH	SAO 122710	30	9.1	1743074	+052644	L	1	12776	L	579	FO	88030118	181900	001000	502	G C=208,B=35
ICJJH	SAO 122710	30	8.2	1743074	+052644	L	3	33018	L	710	FO	88030118	184100	003000	400	G C=150,B=20
ICJJH	SAO 122725	21	6.8	1743437	+054035	L	3	33019	L	2808	FO	88030120	200200	000035	500	G C=190,B=18
ICJJH	SAO 122725	21	6.8	1743437	+054035	L	1	12777	L	2830	FO	88030120	200700	000015	502	G C=208,B=35
ICJJH	SAO 122730	30	8.1	1743597	+054307	L	1	12778	L	760	FO	88030120	204900	000530	402	G C=182,B=36
JI037	HD162732	26	07.19	1748447	+482425	H	1	12562	L	4818	FO	88012410	100812	001200	400	V
JI037	HD162732	26	07.20	1748447	+482425	H	3	32774	L	4783	FO	88012410	103730	002000	500	V
JA194	HD164284	26	04.92	1757471	+042212	H	3	33121	L	317	FU	88032006	060940	000210	501	V
BEJGP	HD 164284	26	4.6	1757471	+042211	H	3	33037	L	24563	FO	88030419	195700	000210	503	G C=225,B=41
BEJGP	HD 164284	26	4.6	1757471	+042211	L	3	33038	L	24214	FO	88030420	203100	000001	500	G C=215,B=18
BEJGP	HD 164284	26	4.6	1757471	+042211	L	1	12798	L	24016	FO	88030420	203600	000001	502	G C=210,B=32
LDJDB	HD 164259	40	4.6	1757504	-034119	L	1	12707	L	23559	FO	88022023	234900	000030	502	G C=212,B=40
SSJDS	SATURN	03	0.5	1804501	-221900	L	3	33069	L			88030819	195900	003000	30	G E=91,B=19
SSJDS	SATURN	03	0.5	1804501	-221900	L	3	33070	L			88030823	230400	009000	02	G B=37
SSJDS	SATURN	03	0.5	1804501	-221900	L	3	33071	L			88030823	233700	009000	03	G B=44
SSJDS	SATURN	03	0.5	1804501	-221900	L	3	33072	L			88030901	015100	003500	30	G E=110,B=20
LDJDB	HD 165908	41	5.0	1805075	+303313	L	1	12705	L	18223	FO	88022021	214200	000055	502	G C=206,B=38
GKJBS	HD 167003	23	8.4	1811247	-330923	H	3	32977	L	559	FO	88022418	181600	005000	06	G B=75
OD34Y	AS 296	57	11.2	1812360	-002016	L	3	33046	L	343	SO	88030512	123800	012000	42	G E=171,B=40
OD34Y	AS 296	57	11.2	1812360	-002016	L	1	12807	L	340	SO	88030514	144600	009000	334	G E=115,C=89,B=59
OD34Y	AS 296	57	11.2	1812360	-002016	L	3	33047	L	364	SO	88030516	162400	014500	52	G E=209,B=35
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	12003	L	1954	FO	87110309	095700	001000	302	G C=128,B=39
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	12004	L	1862	FO	87110310	104500	000300	302	G C=68,B=36
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	12093	L	1210	FO	87111503	033000	000700	302	G C=80,B=38
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	12786	L	2332	FO	88030221	210100	000400	402	G C=170,B=35
SDJGW	K1828+66	37	15.8	1828242	+665023	L	1	12675	L		BO	88021611	115200	009000	303	G C=70,B=43
SDJGW	K18284+6	37	15.8	1828242	+665023	L	3	32932	L		BO	88021613	132800	012000	203	G C=57,B=41
NPJJC	M 22PN	70	14.8	1833200	-235750	L	1	12830	L		BO	88030916	162700	006000	303	G C=109,B=50
NPJJC	M 22PN	70	14.8	1833200	-235750	L	3	33073	L		BO	88030917	174200	006800	331	G E=115,C=80,B=25
NPJJC	M 22PN	70	14.8	1833200	-235750	L	3	33080	L		BO	88031112	121500	018000	304	G C=143,B=53
NPJJC	M 22PN	70	14.8	1833200	-235750	L	1	12838	L		BO	88031115	152300	015000	09	G B=105
NPJJC	M 22PN	70	14.8	1833200	-235750	L	3	33081	L		BO	88031118	180100	004500	301	G C=72,B=24
PHCAL	HD 172167	30	0.0	1835147	+384409	H	3	32870	L	15265	FU	88020604	042200	000008	502	G C=195,B=38
PHCAL	HD 172167	30	0.0	1835147	+384409	H	1	12617	L	15313	FU	88020604	042700	000004	502	G C=205,B=40
PHCAL	HD 172167	30	0.0	1835147	+384409	H	3	32887	L	15523	FU	88020812	125900	000009	502	G C=222,B=39
PHCAL	HD 172167	30		1835147	+384409	H	9	02038	2			88020814	140600	000240		G
PHCAL	HD 172167	30	0.0	1835147	+384409	L	1	12650	L	15278	FU	88021220	200200	000000	502	G C=190,B=36
PHCAL	HD 172167	30	0.0	1835147	+384409	L	3	32906	L	15454	FU	88021220	202900	000000	500	G C=190,B=18
PHCAL	HD 172167	30	0.0	1835147	+384409	L	1	12651	L	15391	FU	88021221	214000	000000	502	G C=190,B=34
PHCAL	HD 172167	30	0.0	1835147	+384409	L	3	32907	L	17567	FU	88021221	215500	000000	500	G C=192,B=15
SRJEB	R SCT	52	5.4	1844430	-054536	L	1	12000	L	17520	FO	87110305	054300	001500	X02	G C=1.5X,B=38
SRJEB	R SCT	52	5.4	1844430	-054536	L	1	12123	L	20419	FO	87111808	081400	001000	X07	G C=1.2X,B=83
SRJEB	R SCT	52	5.4	1844430	-054536	L	1	12818	L	13556	FO	88030619	194100	001200	332	G E=79,C=105,B=35
IPJRP	V 356	66	6.9	1844543	-201948	H	3	33161	L	4037	FO	88032601	015600	005500	403	G C=190,B=43
JQ043	3C390.3	86	14.40	1845376	+794306	L	3	32644	L		BO	87123111	112626	028100	342	V

Vilspa Data Base 16-NOV-88 Page 120

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JQ043	3C390.3	86	15.00	1845378	+794305	L	3	32931	L		BO	88021605	053357	033000	242	V
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	12457	L	551	FU	88010805	052500	003000	344	G E=206,C=90,B=57
MGJJE	HD 175865	49	4.04	1853486	+435245	H	1	12153	L	840	FU	87112310	102600	002000	352	G E=224,C=72,B=34
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	12456	L	756	FU	88010804	042800	002000	345	G E=218,C=110,B=70
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	12553	L	733	FU	88012306	064500	000500	32	G E=78,B=35
CNJSS	NOVAVUL3	55	7.4	1902059	+213959	L	3	32349	L	2768	FO	87111709	094800	000200	01	G B=23
CNJSS	NOVAVUL3	55	7.4	1902059	+213959	L	1	12116	L	2840	FO	87111709	095500	000010	202	G C=45,B=35
CVJSS	NOVAVUL3	55	7.1	1902321	+214054	L	1	12152	L	3465	FO	87112309	092500	000200	402	G C=180,B=34
CVJSS	NOVAVUL3	55	7.1	1902321	+214054	L	3	32382	L	3501	FO	87112309	093300	001000	300	G C=44,B=17
CVJSS	NOVAVUL3	55	7.9	1902321	+214054	L	3	32391	L	2607	FO	87112502	020000	005000	332	G E=71,C=57,B=35
CVJSS	NOVAVUL3	55	7.9	1902323	+214054	L	1	12162	L	2527	FO	87112501	015000	000220	352	G E=191,C=128,B=38
PHCAL	HD 177724	30	3.0	1903066	+134715	L	1	12904	L	1299	FU	88032200	004100	000003	502	G C=188,B=36
PHCAL	HD 177724	30	3.0	1903066	+134715	L	3	33131	L	1304	FU	88032200	005400	000006	400	G C=164,B=18
PHCAL	HD 177724	30	3.0	1903066	+134715	L	1	12905	L	1362	FU	88032201	015600	000003	502	G C=200,B=35
PHCAL	HD 177724	30	3.0	1903066	+134715	L	3	33132	L	1324	FU	88032202	020700	000008	500	G C=202,B=17
IS208	COMET MCNA	06	10.68	1903293	+252205	L	1	12568	L	217	FO	88012510	104826	009000	371	V EFFECTIVE EXP. TIME
IS208	COMET MCNA	06	10.68	1903293	+252205	L	3	32781	L	217	FO	88012511	111328	007500	220	V SERENDIPITY. COMET I
IS208	COMET MCNA	06		1903293	+252205	D	9	02029	2			88012511	110500	016000		V
IS208	COMET MCNA	06		1903293	+252205	D	9	02030	2			88012511	114800	016000		V
CCJTS	HD 180777	31	5.13	1911011	+762841	L	3	33000	L	18408	FO	88022901	012100	002000	27	G E=100,B=85
SAJCW	HD 180711	45	3.07	1912327	+673424	L	1	12659	L	1104	FU	88021321	211900	000110	501	G C=215,B=30
PRJCG	HD 180968	26	5.3	1915366	+225603	H	3	32318	L	15667	FO	87111405	053300	000630	402	G C=190,B=40
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	12124	L	150	FO	87111809	092800	003000	304	G C=120,B=54
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	12219	L	198	FO	87120402	025100	004000	403	G C=175,B=41
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	12271	L	218	FO	87121307	072200	006000	305	G C=160,B=63
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	12819	L	185	FO	88030620	204000	004000	303	G C=119,B=41
CCJFF	HD 181943	45	9.4	1920073	-142121	L	3	33101	L	416	FO	88031614	145600	023500	336	G E=115,C=118,B=77
JI083	BF CYGNI	57	10.96	1921550	+293405	L	3	32341	L	169	FO	87111611	115621	003000	360	V
JI083	BF CYGNI	57	10.95	1921550	+293405	L	1	12109	L	170	FO	87111612	123400	002000	462	V
JI083	BF CYGNI	57	10.93	1921552	+293434	L	3	32342	L	173	FO	87111613	131323	001000	351	V HIGH 120M + LOW 10M
JI083	BF CYGNI	57	10.93	1921552	+293434	H	3	32342	L	172	FO	87111613	133240	012000	251	V HIGH 120M + LOW 10M
JI083	BF CYGNI	57	11.33	1921552	+293434	L	1	12886	L	121	FO	88031908	081734	003000	603	V
JI083	BF CYGNI	57	11.40	1921552	+293434	L	3	33113	L	114	FO	88031909	090240	003000	361	V
JI083	BF CYGNI	57	11.37	1921552	+293434	L	3	33114	L	117	FO	88031910	102041	001000	261	V
JI083	BF CYGNI	57	11.35	1921552	+293434	L	1	12887	L	119	FO	88031910	103907	001000	503	V PREAD
JI083	BF CYGNI	57	11.31	1921552	+293434	H	3	33122	L	123	FO	88032007	072829	020000	362	V
JI083	CH CYG	87	06.85	1923126	+500845	L	3	32442	L	6146	FO	87120209	094541	020000	002	V
JI030	HD182917	57	06.73	1923142	+500831	L	3	32205	L	7117	FO	87110111	114854	001600	430	V PREAD
JI030	HD182917	53	06.67	1923142	+500831	L	1	11989	L	7604	FO	87110112	121047	000400	361	V ALSO HIGH RES
JI030	HD182917	87	06.67	1923142	+500831	L	3	32206	L	7604	FO	87110112	125146	011000	461	V MODIFIED RP(24,-208)
JI030	HD182917	53	06.67	1923142	+500831	H	1	11989	L	7604	FO	87110112	122254	001500	361	V ALSO LOW RES, 4MOS,
JI029	CH CYG	57	06.97	1923142	+500831	L	3	32767	L	5878	FO	88012307	074428	003000	350	V
JI029	CH CYG	57	06.97	1923142	+500831	H	1	12554	L	5867	FO	88012308	083122	002000	130	V ALSO HIRES 20MOS,LAP
JI029	CH CYG	57	06.97	1923142	+500831	L	1	12554	L	5867	FO	88012308	082117	000800	250	V
JI029	CH CYG	57	06.98	1923142	+500831	L	3	32768	L	5827	FO	88012309	090423	011000	370	V

Vilspa Data Base 16-NOV-88 Page 121

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SCJPF	COM BRAD	06	9.6	1931502	+133634	D	9	02001	2			87112719	195800	002000		G NO COMMENTS
SCJPF	COM BRAD	06	9.6	1931502	+133634	L	1	12180	L	586	FO	87112720	201300	001500	X8	G E=4X,B=95,B=39
SCJPF	COM BRAD	06	9.6	1931502	+133634	L	3	32411	L	610	FO	87112720	203400	000400	40	G E=145,B=10
JI007	HM SGE	57	11.61	1939413	+163732	L	1	12919	L	94	FO	88032504	041012	000900	361	V
JI007	HM SGE	57	11.42	1939413	+163732	L	3	33154	L	446	SO	88032504	042925	001000	151	V
JI007	HM SGE	57	11.50	1939413	+163732	L	1	12920	L	416	SO	88032505	053045	005500	371	V
JI007	HM SGE	57	11.53	1939413	+163732	L	3	33155	L	406	SO	88032506	063400	006000	372	V
JI007	HM SGE	57	11.57	1939413	+163732	H	1	12921	L	390	SO	88032507	074230	018500	62	V
JC044	HD186427	44	06.72	1940314	+502356	H	1	12407	L	7265	FO	88010108	081120	039700	705	V
WDJFW	1950-432	37	14.9	1950183	-431459	L	3	32204	L		BO	87110110	100400	003000	404	G C=177,B=60
CMJFB	HD 188899	33	5.02	1955069	-153730	H	1	12057	L	20718	FO	87111010	104800	000400	403	G C=150,B=41
JI002	V1016 CYG	57	11.06	1955198	+394129	L	3	32295	L	154	FO	87111115	151505	000600	250	V
JI002	V1016 CYG	57	11.06	1955198	+394129	L	3	32295	S	154	FO	87111115	152757	000300	130	V
JI002	V1016 CYG	57	10.98	1955198	+394129	L	1	12064	L	165	FO	87111115	153924	000230	353	V
JI002	V1016 CYG	57	10.98	1955198	+394129	L	1	12064	S	165	FO	87111115	154901	000200	123	V
JI002	V1016 CYG	57	11.07	1955198	+394129	L	3	32296	L	153	FO	87111116	162056	002500	360	V
JI002	V1016 CYG	57	11.07	1955198	+394129	L	3	32296	S	153	FO	87111116	170327	000900	250	V
JI002	V1016 CYG	57	11.07	1955198	+394129	L	1	12065	L	153	FO	87111117	171948	002000	563	V
JI002	V1016 CYG	57	11.07	1955198	+394129	H	3	32297	L	153	FO	87111117	175235	005500	151	V
JI002	V1016 CYG	57	10.96	1955198	+394129	H	1	12066	L	168	FO	87111120	200318	002000	152	V
WDJDK	2000-56	37	15.2	2000180	-561059	L	1	12073	L		BO	88031718	180400	008000	506	G C=246,B=78
WDJDK	2000-56	37	15.2	2000185	-561116	L	3	33107	L		BO	88031717	170000	005500	00	G B=18
LDJDB	HD 190406	44	5.8	2001513	+165600	L	1	12933	L	10111	FO	88032711	114600	019000	02	G B=36
JC107	FG SGE	41	09.59	2009430	+201054	L	1	12117	L	571	FO	87111711	114213	010000	453	V
NEJRD	N 6888-4	76		2010104	+381526	L	3	32358	L		BO	87111820	200400	024000	03	G B=47
NEJRD	N 6888-4	76		2010104	+381526	L	1	12126	L		BO	87111900	001100	033000	309	G C=157,B=123
NEJRD	N 6888-4	76		2010104	+381526	L	1	12130	L		BO	87111920	200700	040200	308	G C=135,B=99
NEJRD	HD 192163	11	7.4	2010170	+381214	H	3	32359	L	3013	FO	87111905	055600	002000	304	G C=115,B=56
NEJRD	HD 192163	11	7.4	2010170	+381214	L	1	12127	L	3063	FO	87111906	062800	000030	5X2	G E=1.5X,C=203,B=34
NEJRD	N 6888-2	76		2010413	+381750	L	3	32347	L		BO	87111704	043300	004000	03	G B=43
NEJRD	N 6888-1	76		2010498	+381739	L	3	32346	L		BO	87111619	193800	015000	04	G B=52
NEJRD	N 6888-1	76		2010498	+381739	L	1	12113	L		BO	87111622	221300	036000	09	G B=170
LDJDB	HD 192310	46	5.7	2012104	-271101	L	1	12935	L	10392	FO	88032716	161000	021000	302	G C=130,B=35
LDJDB	HD 192310	46	5.7	2012104	-271101	L	1	12937	L	11210	FO	88032718	184900	000400	02	G B=38
JA166	HD 193237	23	05.30	2015565	+375236	H	3	32350	L	21333	FO	87111713	134932	003000	560	V
JA166	HD 193237	23	05.29	2015565	+375236	H	1	12118	L	21514	FO	87111714	143121	000400	562	V
JA089	HD193432	22	05.09	2017535	-125504	H	3	32299	S	24249	FO	87111211	114306	002300	600	V
JA089	HD193432	22	05.04	2017535	-125504	H	3	32300	S	24820	FO	87111212	124244	002300	601	V
CNJSS	N VUL #2	55	12.4	2024407	+274041	L	3	32335	L	59	SO	87111520	201300	020000	337	G E=170,C=112,B=84
CNJSS	N VUL #2	55	10.8	2024407	+274041	L	1	12102	L	59	SO	87111523	234100	004000	335	G E=140,C=87,B=65
JSTOO	BRADFIELD	06	09.75	2032103	+184608	E	9	02006	2	498	FO	87120700	000000	016000		V
JSTOO	BRADFIELD	06	09.75	2032103	+184607	L	1	12238	L	498	FO	87120710	100706	004500	461	V
JSTOO	BRADFIELD	06	09.85	2032103	+184608	L	3	32471	L	453	FO	87120711	110412	000500	040	V
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	12001	L	1256	FO	87110307	072800	003000	434	G E=134,C=183,B=54
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	12094	L	954	FO	87111504	042000	004000	402	G C=185,B=40

Vilspa Data Base 16-NOV-88 Page 122

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	12125	L	925	FO	87111810	104100	001000	302	G C=90,B=34
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	12220	L	1182	FO	87120404	042700	004000	405	G C=170,C=181.B=63
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	12267	L	948	FO	87121302	021600	004000	333	G E=133,C=90,B=48
CCJFF	HD 196818	47	8.1	2042124	-801905	L	3	32275	L	1456	FO	87110823	234100	019000	334	G E=151,C=80,B=55
JI007	HBV475	39	12.69	2049026	+352337	L	3	32456	L	144	SO	87120310	101710	005000	251	V
JI007	HBV 475	39	12.72	2049026	+352337	L	1	12217	L	140	SO	87120311	111436	004200	352	V
JI007	HBV475	39	12.73	2049026	+352337	H	3	32457	L	139	SO	87120312	120156	028500	152	V
NSJJR	CYG LOOP	75		2053421	-314806	L	1	12135	L			87112009	092600	036000	07	G B=88
NSJJR	CYG LOOP	75		2053437	+314702	L	3	32368	L		BO	87112020	202000	038000	06	G B=73
PMJSK	V1057CYG	64	11.5	2057062	+440348	L	1	12012	L	391	SO	87110415	155400	051500	309	G C=160,B=121
JC106	V 1057 CYG	58	99.99	2057063	+440349	E	9	01997	2			87110415	150000	004000		V FOR LWP12012
PRJCG	HD 200120	26	4.5	2058074	+471930	H	3	32675	L	24816	FO	88010623	233800	000130	502	G C=208,B=36
JC116	ER VUL	44	07.77	2100160	+273630	H	1	12250	L	2908	FO	87120911	110757	015000	454	V
JETOO	NGC7027	71	09.45	2105094	+420203	H	3	32533	L	649	FO	87121614	145843	011000	151	V
JC176	GL821	29	11.18	2106320	-132955	L	3	32329	L	138	FO	87111511	114626	003000	111	V
JC176	GL821	29	11.24	2106320	-132955	L	1	12099	L	131	FO	87111512	122329	007000	213	V
MGJEB	T CEP	51	7.0	2108528	+681711	L	1	12270	L	2267	FO	87121306	063200	000500	43	G E=162,B=43
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	12002	L	2482	FO	87110309	090400	000500	3X2	G E=2X,C=77,B=40
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	12221	L	5	FO	87120406	060800	002000	305	G C=98,B=70
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	12607	L	4331	FO	88020223	230600	001000	32	G E=131,B=35
SAJCW	HD 203280	31	2.47	2117231	+622222	L	3	32915	L	1978	FU	88021322	221300	000017	500	G C=205,B=12
SAJCW	HD 203280	31	2.47	2117231	+622222	L	1	12660	L	1984	FU	88021322	222200	000004	502	G C=214,B=35
PRJCG	HD 203467	26	5.4	2118201	+643934	H	3	32319	L	20306	FO	87111406	061500	001000	504	G C=225,B=60
PRJCG	HD 203467	26	5.4	2118201	+643934	H	3	32922	L	18132	FO	88021419	194500	001000	03	G B=48
IEJDM	HD 203532	21	6.4	2125580	-825418	L	1	12339	L	6939	FO	87122108	084000	000008	502	G C=197,B=33
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	12455	L	21830	FO	88010803	033400	001000	233	G E=130,C=65,B=45
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	12551	L	237	FU	88012302	023200	001000	338	G E=141,C=123,B=93
IBJBB	HD 207739	39	8.6	2147598	+434354	L	3	32757	L	1035	FO	88012005	051000	001300	440	G E=114,C=136,B=14
IBJBB	HD 207739	39	8.6	2147598	+434354	H	1	12534	L	1029	FO	88012005	053100	008000	334	G E=138,C=103,B=52
PHCAL	BD+284211	16	10.84	2148560	+283734	H	1	12059	L	188	FO	87111015	153549	006500	402	V
PHCAL	BD+284211	16	10.85	2148560	+283734	H	3	32286	L	186	FO	87111016	164651	004500	400	V
PHCAL	BD+28 4211	16	10.83	2148560	+283734	H	1	12060	L	189	FO	87111017	173731	006500	402	V
PHCAL	BD+28 4211	16	10.77	2148560	+283735	L	3	32430	L	199	FO	87113014	144349	000026	500	V
PHCAL	BD+28 4211	16	99.99	2148560	+283735	L	1	12204	L	193	FO	87113014	144957	000050	501	V
PHCAL	BD+28 4211	16	10.75	2148560	+283735	H	1	12356	L	203	FO	87122212	125850	006000	501	V
PHCAL	BD+28 4211	16	10.74	2148560	+283735	H	3	32587	L	206	FO	87122214	141608	004500	501	V
PHCAL	BD+28 4211	16	10.67	2148560	+283735	L	1	12357	L	218	FO	87122215	150551	000050	501	V
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	2	18152	L	216	FO	87120206	062700	000122	401	G C=160,B=28,N=0
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	1	12296	L	191	FO	87121617	174600	000050	502	G C=196,B=35
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	3	32534	L	189	FO	87121617	175300	004000	502	G C=199,B=39
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	1	12297	L	201	FO	87121618	184100	006000	404	G C=199,B=56
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	32535	L	201	FO	87121619	194700	000026	500	G C=192,B=17
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	2	18162	L	193	FO	87123105	055300	000122	401	G C=170,B=23
PHCAL	SAFETYRD	99		2150157	+283330	L	2	18151				87120205	054500	000000		G
SPJMA	C 1987S	06	10.5	2154336	+233757	L	1	12308	L	281	FO	87121823	234200	003000	334	G E=120,C=103,B=51

Vilspa Data Base 16-NOV-88 Page 123

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SPJMA	C 1987S	06	10.5	2154336	+233757	L	9	02016	2			87121823	235100	000020	G	
SPJMA	C 1987S	06	10.5	2154336	+233757	L	3	32557	L		FO	87121900	001900	000600	30 G	E=109,B=17
XQJCU	X 2155-304	87	13.5	2155583	-302754	L	3	32210	L	48	SO	87110202	020700	004500	300 G	C=64,B=20
CBJNE	IR CEP	53	7.8	2156190	+604648	L	1	12262	L	1616	FO	87121207	072600	001300	403 G	C=190,B=47
SAJCW	HD 209975	13	5.10	2203361	+620209	L	3	32916	L	18963	FO	88021401	013000	000013	500 G	C=195,B=17
SAJCW	HD 209975	13	5.10	2203361	+620209	L	1	12662	L	19486	FO	88021401	014000	000006	502 G	C=198,B=36
IPJGB	FO AQR	63	13.5	2215173	-083605	L	1	12252	L	49	SO	87120923	233700	004900	503 G	C=205,B=42
IPJGB	FO AQR	63	13.5	2215173	-083605	L	3	32485	L	48	SO	87121000	000800	009900	353 G	E=193,C=110,B=41
IPJGB	FO AQR	63	13.5	2215174	-083605	L	3	32497	L	53	SO	87121023	233900	000500	352 G	E=224,C=127,B=40
IPJGB	FO AQR	63	13.5	2215174	-083605	L	1	12255	L			87121023	235100	005000	453 G	E=213,C=175,B=42
IPJGB	FO AQR	63	13.5	2215174	-083605	L	3	32497	L	53	SO	87121100	000000	000500	352 G	E=224,C=127,B=40
JA089	HD213320	30	05.18	2228001	-105604	H	3	32302	S	22962	FO	87111214	145649	003000	501 V	
JA089	HD213320	30	05.18	2228001	-105604	H	3	32301	L	22962	FO	87111214	140206	001500	700 V	
SAJCW	HD 214470	41	5.07	2234319	+732259	L	1	12756	L	17998	FO	88022801	012700	000120	503 G	C=240,B=45
PHCAL	HD214680	13	05.15	2237010	+384722	L	1	12422	L	23391	FO	88010213	135007	000000	403 V	
PHCAL	HD214680	13	05.10	2237010	+384722	L	1	12423	L	24127	FO	88010214	142433	000000	403 V	
PHCAL	HD214680	13	05.03	2237010	+384722	L	1	12424	L	24977	FO	88010214	145433	000000	403 V	PREAD
USSBS	HD 216627	30	3.29	2251597	-160514	H	1	12370	L	992	FU	87122503	035900	000200	503 G	C=215,B=47
USSBS	HD 216627	30	3.29	2251597	-160514	H	3	32613	L	1011	FU	87122504	042100	000412	502 G	C=205,B=40
USSBS	HD 216627	30	3.29	2251597	-160514	H	3	32614	L	995	FU	87122504	045500	000630	07 G	B=82
USSBS	HD 216627	30	3.29	2251597	-160514	H	3	32614	L	995	FU	87122505	050500	000630	07 G	B=82
JI039	HD 217543	26	06.77	2258348	+382622	H	3	32736	L	6995	FO	88011609	094857	001100	501 V	
JI037	HD217543	26	06.74	2258348	+382622	H	3	32772	L	7131	FO	88012408	082947	001100	500 V	
JI037	HD 217675	26	03.87	2259369	+420325	H	3	32737	L	809	FU	88011610	105815	000110	501 V	
HCJTA	HD 218634	39	5.1	2306599	+082421	L	1	12302	L	25940	FO	87121804	043000	000100	332 G	E=123,C=114,B=37
HCJTA	HD 218634	39	5.1	2306599	+082421	L	3	32554	L	26059	FO	87121804	043800	001000	403 G	C=170,B=50
CNJSS	NOVA AND	55	7.0	2309477	+471201	L	3	32336	L		BO	87111601	010100	010500	34 G	E=115,B=58
JI026	VY SCL	63	12.88	2326113	-300317	L	1	12365	L	122	SO	87122313	133432	002000	402 V	
JI026	VY SCL	63	12.98	2326213	-300317	L	3	32575	L	111	SO	87122116	161006	002800	401 V	PREAD
JI026	VY SCL	63	12.84	2326213	-300317	L	1	12342	L	126	SO	87122116	164310	001000	401 V	PREAD
JI026	VY SCL	63	12.76	2326213	-300317	L	3	32594	L	135	SO	87122312	125159	003500	400 V	
JI030	Z AND	57	10.77	2331150	+483231	L	1	11990	L	200	FO	87110115	151243	003000	561 V	
JI030	Z AND	57	10.76	2331150	+483231	H	3	32207	L	202	FO	87110115	155030	012000	162 V	
JI030	Z AND	57	10.68	2331150	+483231	L	1	11991	L	216	FO	87110117	175630	001500	362 V	
JI030	Z AND	57	10.72	2331150	+483231	L	3	32208	L	208	FO	87110118	182502	002200	261 V	
JI063	Z AND	57	10.69	2331150	+483231	L	3	32845	L	215	FO	88020310	102930	003000	360 V	
JI063	Z AND	57	10.68	2331150	+483231	H	3	32846	L	217	FO	88020311	115226	005500	250 V	
JI063	Z AND	57	10.67	2331150	+483231	L	1	12614	L	218	FO	88020311	110918	001200	341 V	
JA089	HD221760	30	05.11	2332234	-425329	H	3	32305	L	23915	FO	87111218	182020	002700	601 V	
SAJCW	HD 221861	47	5.84	2332479	+712155	L	1	12661	L	10360	FO	88021323	231300	006000	455 G	E=244,C=210,B=63
SAJCW	HD 221861	47	5.84	2332479	+712155	L	1	12661	L			88021323	234200	000800	334 G	E=95,C=95,B=60
JM080	HD222107	47	99.99	2335060	+461113	E	9	02035	2			88020207	070000	016000	V	FOR SWP32843
JM080	HD 222107	45	3.82	2335064	+461113	H	3	32843	S	550	FU	88020214	142500	069500	09 G	B=142
NJJMK	R AQR	57	10.0	2341142	-153342	L	3	32646	L	4523	FO	88010023	231700	004000	301 G	C=56,B=30
NJJMK	RAQR JET	57	13.0	2341145	-153336	L	3	32645	L		BO	87123117	171400	024000	304 G	C=100,B=60

Vilspa Data Base 16-NOV-88 Page 124

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
NJJMK	RAQR JET	57	13.0	2341145	-153336	L	1	12404	L			87123121	212500	010000	403	G C=170,B=47
SPJMA	CM1987D1	06	7.00	2342018	-602429	L	9	02011	2			87120817	173800	000106		G
SCJMA	CM1987D1	06	7.00	2342018	-602429	H	1	12246	L	47	SO	87120818	180300	001000	303	G C=73,B=46
SCJMA	CM1987D1	06	7.00	2342018	-602429	H	1	12246	L	47	SO	87120818	182100	002000	303	G C=73,B=46
SCJMA	CM1987D1	06	7.00	2342018	-602429	H	9	02012	2			87120818	182800	000005		G
SCJMA	CM1987D1	06	7.00	2342018	-602429	H	1	12247	L	51	SO	87120820	201000	012000	24	G E=80,B=60
SCJMA	CM1987D1	06	7.00	2342018	-602429	L	3	32476	L	46	SO	87120822	221800	005600	01	G B=21
SCJMA	CM1987D1	06	7.00	2342018	-602429	H	1	12248	L			87120822	225400	011500		G
JA062	HD 223385	32	05.96	2346232	+615612	L	3	32284	L	13568	FO	87111011	114941	000300	540	V
JA062	HD223385	32	05.97	2346232	+615612	H	1	12058	L	13481	FO	87111012	120150	003000	501	V
JA062	HD223385	32	05.91	2346232	+615612	H	3	32285	L	14060	FO	87111012	123748	014200	431	V
JA062	HD223385	32	05.92	2346232	+615612	H	1	12141	L	13959	FO	87112112	121613	003000	503	V
JA062	HD223385	32	05.83	2346232	+615612	H	3	32372	L	14871	FO	87112112	125109	013000	431	V
JA062	HD223385	32	05.81	2346232	+615612	H	1	12213	L	15137	FO	87120114	142307	003000	503	V RP-30,-208
JA062	HD223385	32	05.67	2346232	+615612	H	3	32439	L	16766	FO	87120115	150722	010500	401	V RP-30,-208
JS201	ICHIMURA	06	13.65	2350040	-600832	L	1	12243	L	61	SO	87120810	100428	001200	032	V
JS201	ICHIMURA	06	13.67	2350040	-600832	L	3	32475	L	60	SO	87120810	103253	000600	030	V
JS201	ICHIMURA	06		2350040	-600832	E	9	02009	2			87120810	104600	002000		V
JS201	ICHIMURA	06	13.71	2350040	-601431	L	1	12244	L	58	SO	87120811	113453	009000	053	V
MGJJE	HD 224427	49	4.7	2355124	+245149	H	1	12454	L	339	FU	88010802	021000	004000	343	G E=158,C=85,B=42
MGJJE	HD 224427	49	4.7	2355124	+245149	H	1	12550	L	352	FU	88012301	010500	004000	338	G E=196,C=150,B=100

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