1-1-2007

The diverse solar phase curves of distant icy bodies. I. Photometric observations of 18 trans-Neptunian objects, 7 Centaurs, and Nereid

David L. Rabinowitz
Yale University

Bradley E. Schaefer
Louisiana State University

Suzanne W. Tourtellotte
Yale University

Recommended Citation

Rabinowitz, D., Schaefer, B., & Tourtellotte, S. (2007). The diverse solar phase curves of distant icy bodies. I. Photometric observations of 18 trans-Neptunian objects, 7 Centaurs, and Nereid. *Astronomical Journal, 133* (1), 26-43. https://doi.org/10.1086/508931

The Diverse Solar Phase Curves of Distant Icy Bodies. Part I: Photometric Observations of 18 Trans-Neptunian Objects, 7 Centaurs, and Nereid

Short Title: Opposition Surges of 26 Distant Icy Bodies

David L. Rabinowitz[1], Bradley E. Schaefer[2], Suzanne W. Tourtellotte[3]

[1]Center for Astronomy and Astrophysics, Yale University, P. O. Box 208121, New Haven CT 06520-8121 email: david.rabinowitz@yale.edu

[2]Department of Physics & Astronomy, Louisiana State University, 234 Nicholson, Baton Rouge LA 70803-0001

[3]Astronomy Department, Yale University, P. O. Box 208121, New Haven CT 06520-8121

5 tables, 5 figures

2006 May 31

submitted to the Astronomical Journal

ABSTRACT

We have measured the solar phase curves in B, V, and I for 18 Trans-Neptunian Objects, 7 Centaurs, and Nereid and determined the rotation curves for 10 of these targets. For each body, we have made ~100 observations uniformly spread over the entire visible range. We find that all the targets except Nereid have linear phase curves at small phase angles (< 2 deg) with widely varying phase coefficients (0.0 to 0.4 mag deg^{-1}). At phase angles > 3 deg, the Centaurs (54598) Bienor and (32532) Thereus have phase curves that flatten. The recently discovered Pluto-scale bodies (2003 UB313, 2005 FY9, and 2003 EL61), like Pluto, have neutral colors compared to most TNOs and small phase coefficients (< 0.1 mag deg^{-1}). Together these two properties are a likely indication for large TNOs of high-albedo, freshly coated icy surfaces. We find several bodies with significantly wavelength-dependent phase curves. The TNOs (50000) Quaoar, (120348) 2004 TY364 (47932), and 2000 GN171 have unusually high I-band phase coefficients (0.290±0.038, 0.413±0.064, 0.281±0.033 mag deg-1, respectively) and much lower coefficients in the B and V bands. Their phase coefficients increase in proportion to wavelength by 0.5 - 0.8 mag deg^{-1} μm^{-1}. The phase curves for TNOs with small B-band phase coefficients (< 0.1 mag deg^{-1}) have a similar but weaker wavelength dependence. Coherent backscatter is the likely cause for the wavelength dependence for all these bodies. We see no such dependence for the Centaurs, which have visual albedos ~0.05.

Subject Headings: Kuiper Belt – Oort Clouds – planets and satellites: Nereid – scattering

1. INTRODUCTION

Most airless bodies in the solar system exhibit a brightness enhancement, known as an opposition surge, when they are observed at low solar phase angle, α (the Sun-object-Earth angle). The phenomenon has been known for many years and is well studied (Gehrels 1956, Hapke 1993, Nelson et al. 1998, Shkuratov et al. 2002). The effect is due to the granular structure of the material at the surface of these bodies. As the phase angle approaches zero, the shadows cast by one grain upon another disappear, increasing the total intensity of the scattered light. There is also an influence from coherent backscatter. At α=0, the path length of a light ray from the sun hitting one particle, scattering to a second nearby particle, and then scattering back to the observer is identical to the path of another ray initially hitting the second particle, scattering to the first, and then scattering back. Provided the separation of the two particles is not much greater than wavelength of the light, then the interference is constructive between all such ray pairs regardless of the orientation of the scattering particles, thus leading to a total brightness enhancement. Both shadow hiding and coherent backscatter are important for explaining opposition surges, with coherent backscatter especially important for highly reflective surfaces.

In this paper we present our measurements of the opposition phase curves for 26 distant solar system bodies with widely varying sizes and orbit. These include 18 trans-Neptunian objects (defined here as bodies with perihelion, q > 19.2 AU and semimajor axis, a > 30.1 AU), 7 Centaurs (defined here as bodies with 19.2 > q > 5.2 AU), and Neptune's satellite Nereid. This is the most extensive survey to date dedicated to the long-term measurement of the light curves of distant bodies. We have already reported our observations for two of these bodies, (38628) Huya

(Schaefer & Rabinowitz 2002) and 2003 EL61 (Rabinowitz et al. 2006). The target list includes one inner-Oort cloud object (90377 Sedna), all of the recently discovered Pluto-sized TNOs (2003 UB313, 2005 FY9, and 2003 EL61), and nearly all the known TNOs and Centaurs with apparent magnitude V < 20 and phase angle α < 2 deg at the time of our survey. Table 1 lists the names and orbital elements for each of these targets, and also the period and amplitude of the rotational light curve (determined in this paper or elsewhere) and the visual albedo (p_v) where these values are known.

For each of our targets we have made numerous observations spread uniformly in time and covering the entire observable range of phase angle. This allows us to measure both the non-linearity of the phase curve and also the rotational light curve. In most cases, however, our targets are observable only at small phase angles (α < 2 deg) where their phase curves are linear and the phase coefficient (slope of the curve) is the only measure of the magnitude of the opposition surge. Where the rotational modulation is significant, we subtract the modulation from our observations to properly measure the phase-dependence of the light curve. We have also measured most of the phase curves in Johnson-Cousins B, V, and I filters to look for a wavelength dependence to the surge. This is expected if coherent backscatter is an important influence (Hapke 1993, Schaefer & Rabinowitz 2002).

Our goal is to explore the range of shapes for the opposition surges (slope and amplitude) in order to constrain the surface structures and compositions of distant icy bodies. For the well-studied asteroids in the main belt, the shape of the phase curve is known to correlate with spectral type and albedo (Bowell & Lumme 1979, Belskaya & Shevchenko 2000). For many of the icy satellites in the outer solar systems, steep and narrow opposition surges have been observed (Buratti et al. 1992, Domingue et al. 1995, Schaefer & Tourtellotte 2001). These narrow surges likely result from coherent backscatter of the highly reflective surfaces (Nelson et al. 2000). Since it is known that the visible colors and albedos of TNOs and Centaurs are diverse (Tegler & Romanishin 1998, Jewitt & Luu 2001, Hainaut & Delsanti 2002, Grundy, Knoll, & Stephens 2005), it is reasonable to expect similar diversity for their opposition surges and to find correlations between the phase curve shape, albedo, and color. In a follow up to this paper, we will discuss the relationships we find between surge amplitude, color, albedo, orbit, and absolute magnitude in greater detail. Here, our main purpose is to present the observations, our method for reducing the data, and preliminary conclusions.

2. OBSERVATIONS

The observations we report here were made by on-site operators at Cerro Tololo using the 1.3-m telescope of Small and Moderate Aperture Research Telescope System (SMARTS) consortium. Images were recorded with the optical channel of the permanently mounted, dual infrared/optical CCD camera known as A Novel Dual-Imaging Camera (ANDICAM). The optical channel is a Fairchild 2Kx2K CCD which we binned in 2x2 mode to obtain 0.37" per pixel and a 6.3 'x 6.3' field of view. All exposures are auto-guided, and typical seeing is 1-2". Because the telescope is queue-scheduled for shared use by all members of the SMARTS consortium, we were able to obtain ~15 minutes of observing time per target every night or every other night for the entire duration of the apparition. We typically observed two targets per night, each with a sequence of three or four exposures (B-V-V-I or B-V-I), sometimes including the R

band to better characterize the color. Users of the telescope share dome and sky flats, bias frames, and observations in B, V, R, and I of Landolt stars taken at a variety of air masses on all photometric nights. For each of our targets, Table 2 lists the average V magnitude (<V>) of our observations, the minimum and maximum phase angle observed (α_{min} and α_{max}), the average geocentric and heliocentric distance of the target (<d> and <r>, respectively), the number of observations (N_{obs}), the range of observing dates, and the exposure times for each filter.

Our reduction procedure is identical for all our observations, and is described in detail elsewhere for the case of 2003 EL61 (Rabinowitz et al. 2006). Briefly, we correct all images using bias frames and flats recorded nightly. We use selected field stars appearing in each target image as secondary standards, and determine their apparent magnitudes from observations of the field stars and of Landolt standards made on the same photometric nights (for ~5% of the observations, the field star magnitudes were determined from photometric observations later made with the SMARTS 0.9-m and 1.0-m telescopes and the McDonald Observatory 0.8-m telescope). We use a large pixel aperture (14.8" diameter) to measure the fluxes of the field stars in each image and thereby determine the transformation from instrumental to apparent magnitude in each filter. To determine the apparent magnitude of the targets, we measure the flux within a small aperture (2.2" diameter), and apply a correction determined separately for each image from the ratio of the aperture fluxes of the field stars. We also make color-dependent corrections in the final determination of the phase curves (see discussion in Section 3.1).

To speed and standardize our reduction procedure we use a set of software scripts. Initially we use standard, interactive IRAF routines to measure the fluxes of Landolt stars, to select and measure the pixel coordinates of the field stars, and to identify and measure the pixel coordinates of the target. In the process, we make a visual inspection of each image. This is the basis upon which we decide to reject some measurements (discussed further below). We then run our scripts, which use a non-interactive IRAF routine ("phot") to measure the small and large aperture fluxes for the target and selected field stars. The scripts determine the magnitude transformation and aperture correction for each image, and compute the resulting apparent magnitude and its uncertainty for each target image. The magnitude uncertainty is the quadratic sum of the noise (within the small aperture) from the readout, sky, and target and of the uncertainty in the magnitude calibration.

After we have reduced all the observations of a given target, we then reject measurements with magnitude uncertainties exceeding 0.3, or for which the target is near a bright star or a noise artifact (such as a cosmic ray hit or spurious noisy pixel), or for which another star or galaxy is visible within a few pixels of the aperture radius. We also require at least three field stars significantly brighter than the target (usually V < ~17). After these rejections, we iteratively compute the dispersion of all the measured magnitudes in each filter, throwing out observations with magnitudes exceeding the mean by three times the standard deviation. After three iterations, we use the final set of observations for analysis.

3. RESULTS AND ANALYSIS

3.1 Light-Curve Data

Table 3 lists the Julian date for the mid-time of the exposure, apparent magnitude, magnitude uncertainty, Julian date corrected for light-travel time, reduced magnitude, phase angle (α), heliocentric distance (r), geocentric distance (d), and the filter for each observation we accepted for each target (3282 observations total). The reduced magnitude is the apparent magnitude minus 5log(rd) with r and d expressed in AU. Extrapolated to α=0 deg, the reduced magnitude is the absolute magnitude in the respective filter band. The correction for light-travel time, subtracted from the UT date, is $(d-d_0)/c$ where d_0 is the geocentric distance at the time of the earliest observation for each target and c is the speed of light. Table 3 does not list our previously reported observations of Huya and 2003 EL61.

We note here that the magnitudes we report in Table 3 do not account for color-dependent terms in our transformations from instrumental to apparent magnitude. The resulting corrections, which are magnitude offsets no larger than a few percent, depend on the color of the target, the atmospheric conditions, and instrumental variations. Our long-term observations with the same telescope and detector show that the color-dependent terms do not vary significantly from night to night. We are therefore able to determine mean corrections and add these to our listed magnitudes after initially reducing all the observations for each target without color correction. The uncorrected data yield a mean color that yields a more accurate correction than we can determine on any individual night owing to relatively high measurement uncertainties. After we analyze the data, compute rotation and phase curves and determine the colors of each object, we then determine the color corrections and add these to the absolute magnitudes derived in Section 3.3, below. The corrections (ΔB, ΔV, and ΔI added to the uncorrected magnitudes) are linear functions of the uncorrected B-V and V-I values, with $\Delta B = 0.063(B-V) - 0.027$ mag, $\Delta V = -0.030(B-V) + 0.018$ mag, and $\Delta I = -0.073(V-I) + 0.051$ mag. No correction is needed for R.

3.2 Rotational Light Curves

For some of our targets, the scatter in the brightness measurements clearly exceeds the measurement error, and this is likely the result of rotational modulation. For these, we have attempted to compute a rotational light curve and measure the rotation period using the procedure we describe elsewhere for 2003 EL61 (Rabinowitz et al. 2006). In this procedure, we initially make a linear fit to the reduced magnitude as a function of α for each filter and subtract this filter-dependent fit from the observations. We then combine the residuals for all filter observations into one data set and use phase-dispersion minimization (Stellingwerf 1978) to search for rotational periodicity. The final rotation curve is the combined set of residuals phased by the measured period and binned by rotational phase.

Note that the linear fits to the α-dependence in each filter are preliminary at this stage. We use them only to create a combined data set suitable for a period search, with the α dependence and wavelength dependence largely removed. If we are able to find a rotation period and compute a reliable rotation curve, we then go back and subtract this rotational dependence

from the original data and then re-determine the α-dependence (see next section). In most cases, the preliminary fits are very close to the final fits after removing the modulation. This is because rotational modulation usually averages to zero over the longer times scale of the α variation, and our observations sample the light curve many times over the longer time scale. There are exceptions, and we discuss these further below (Section 4.5).

Figure 1 shows the resulting rotation curves of those objects for which we are able to determine the period unambiguously from our own observations, or for which a reliable period has been published elsewhere that we can use to compute a rotation curve. Gaps appear in these curves where we have no rotational-phase coverage. In Table 1 we list the respective periods and light curve amplitudes along with their uncertainties. The period uncertainty is the range of values around the best-fit period for which the computed dispersion is small and for which the computed rotation curve shows clear peaks and troughs. For 2002 UX25 and (8405) Asbolus, our observations are not sufficient to reveal the rotation period unambiguously. For these two cases we compute rotation curves assuming the periods published by Rousselot et al. (2005) and Kern et al. (2000), respectively (these periods are listed in Table 1 without error bars).

For the cases of 2002 GN171 and 1999 TD10, we are able to determine rotation periods that are consistent with Sheppard and Jewitt (2002) and Mueller et al. (2004), respectively, but additional periodicities appear in our observations owing to our 24-hour sampling bias. Here we again used the periods determined by the other authors to compute rotation curves. The periods listed in Table 1 are the values reported by Sheppard and Jewitt and by Mueller et al, but the period uncertainties are from our analysis of our own data. In all, we are able to determine unambiguous rotation periods and rotational light curves for 6 of these targets. We rely on published periods to determine the remaining 4 rotation curves.

We attempted to find a rotation curve for Sedna because there are variations in the time-averaged light curve at the 5% level that could be due to short-term (< 1 d) or long-term (1-100 d) periodicity. However, the uncertainties in our individual observations (much larger than 5%) and the 24-hour sampling bias of our observations preclude an unambiguous measurement of the period. We also searched for long rotation periods for our remaining targets with undetermined periods but did not find any significant or unambiguous periodicity on these timescales.

3.3 Solar Phase Curves

Figure 2 shows the final solar phase curves for all of our targets (except Huya which is published in Schaefer & Rabinowitz 2002). For each filter of each target for which we have covered a significant range in α, we present a separate phase curve and a separate linear fit. Table 4 lists the resulting phase coefficients (B', V', R', and I'), the intercepts at α=0 (B_0, V_0, R_0, and I_0), and the uncertainties of these measurements. The intercepts are corrected for color-dependent terms in the magnitude transformations, as discussed above. Figure 2 represents these fits by solid lines, using dashed lines to show the ranges of uncertainty. Note that to have the best visual comparison of the different phase curves, we have normalized the plotted data so that B_0=–0.3, V_0=0.0, R_0=0.3, and I_0=0.6 mags, respectively, for all targets.

To determine these phase curves, we first subtract the computed rotation curves from the reduced magnitudes of the respective targets as listed in Table 3. See Rabinowitz et al. (2006) for a detailed description of this procedure. For those targets with no rotation curves, we make no correction. We then sort the observations in each filter of each target into N equally spaced bins

in α, and compute the average solar phase angle, α_i, the weighted average of the reduced magnitude, y_i, and the error of the weighted average, σ_i, for each bin. These weighted averages and their errors include a systematic error of 0.015 mag added in quadrature to each measurement error. This additional error accounts for night-to-night uncertainties in our magnitude calibrations determined from our measurements of bright field stars. We set the bin size for each average to a multiple of 0.05 deg, chosen so that N~10 for all targets. After normalization, these are the data points with error bars shown in figure 2.

Each fit to the binned data is a line, $F(\alpha)=M_0+M'\alpha$, with slope M' and intercept M_0 that minimizes the chi-square sum,

(1) $\chi^2 = \Sigma_i [(F(\alpha_i)-y_i)/\sigma_i]^2$

(see Press et al. 1986). In some cases there are a few outliers to the fit that we reject by iterating the fitting procedure with a 3-sigma cutoff. On each iteration we recompute the rms residual to the fit,

(2) $\sigma_{rms}^2 = \Sigma_i[(F(\alpha_i)-y_i)^2]/\Sigma_i$,

and throw out observations, i, for which $|F(a_i)-y(a_i)| > 3\sigma_{rms}$. After iterating the fit up to three times (or less if there are no more outliers), the final iteration yields the best fit. The errors listed by Table 4 for the intercept and phase coefficient of each fit are calculated in the usual way by propagating the uncertainties of each unrejected observation, σ_i, through to the solutions for the M_0 and M'.

Table 5 lists the resulting values for χ^2, N, and the likelihood, P, for the measured χ^2 assuming that all observations are independent and that their uncertainties have Gaussian dispersion. Note that N is the number of bins after rejecting outliers. Most our fits yield $\chi^2 \sim N$ and $P > 10\%$, indicating that they are consistent with the observations. However, a few yield $\chi^2/N > 2$ and $P < 1\ \%$. For these cases (highlighted in bold font in Table 5) the phase curve may not be linear, there may be uncorrected rotational modulation, or the measurement errors may be larger than we have calculated. We discuss these possibilities on a case-by-case basis in Section 4.5, below.

4. DISCUSSION

4.1 phase coefficients

As shown by Figure 2, nearly all the objects we observe have linear phase curves at low phase angles ($\alpha < 2$ deg), consistent with previously published phase curves for TNOs (Schaefer & Rabinowitz 2002, Sheppard & Jewitt 2002, Rousselot et al. 2003, Rabinowitz et al. 2006). The only significant exceptions are Nereid at small phase angles and the two Centaurs (54598) Bienor and (32532) Thereus for $\alpha > 2$ deg. We discuss these exceptions further, below.

Phase curves that are linear at small angles are not unusual. Most asteroidal bodies in the solar system have linear phase curves at very small phase angles where the opposition surge is strongest. There is normally an inflection at larger phase angles where the opposition surge

weakens and the phase curve flattens (Bowell et al. 1989, Hapke 1993). For TNOs, which we can not observe at $\alpha > 2$ deg owing to their large distances, the lack of an inflection in the phase curves limits our knowledge of the width of the opposition surges. We can only say that for each target, the width is larger than the maximum phase angle of the observations (see Table 2).

Unlike the phase curves reported for TNOs by previous investigators, the phase curves we observe for TNOs and Centaurs have coefficients ranging widely from 0.0 to 0.4 mag deg^{-1}. In the largest previous study of TNO phase curves Sheppard & Jewitt (2002) measured R-band phase curves for seven TNOs for which the coefficients ranged only from 0.13 to 0.19 mag deg^{-1}. Phase coefficients in this range were also measured by us for Huya (Schaefer & Rabinowitz 2002) and by Rousselot et al. (2003) for 1999 TD10. Until recently, the only known TNO with a phase coefficient outside this range was Pluto. Pluto has a very flat phase curve with phase coefficient 0.041±0.003 mag deg^{-1} (Tholen & Tedesco 1994). Our observations now show that Pluto is not unusual in this respect. We find four additional TNOs – 2003 UB313, 2005 FY9, 2003 EL61, and (55636) 2002 TX300 – with low phase coefficients ranging from 0.0 to 0.10 mag deg^{-1}.

Given that 2003 UB313, 2005 FY9, and 2003 EL61 are icy bodies comparable in size or larger than Pluto, it is perhaps natural they should have phase curves similar to Pluto's. Recent infrared observations show that 2003 UB313 and 2005 FY9, like Pluto, have reflectance spectra dominated by the presence of methance ice (Brown et al. 2005, Licandro et al. 2006). The reflectance spectrum of 2003 EL61, on the other hand, has the strong signature of crystalline water ice (Trujillo et al. 2006). All three bodies have neutral colors compared to most TNOs, as does Pluto (Rabinowitz et al. 2006 and discussion below). Furthermore, the albedos of 2003 UB313 and 2003 EL61 (see Table 1) are known to match or exceed Pluto's albedo of 60% (Brown et al. 2006, Rabinowitz et al. 2006). Since ultraviolet light and cosmic radiation will redden and darken methane-rich ice over time (Luu & Jewitt 1996) and turn crystalline ice to amorphous ice (Jewitt & Luu 2004), the icy surfaces of these bodies must be regularly recoated, similar to the resurfacing of Pluto when it approaches perihelion (Brown et al. 2005, Trujillo et al. 2006). It is thus possible that the flat phase curve for Pluto and for these other large TNOs is a property resulting from both from their high reflectivity and from the granular structure of their freshly-coated icy surfaces. We suspect that 2002 TX300 has a similar surface since it too has a neutral reflectance and flat phase curve. This interpretation is supported by the observations of Pinilla-Alonso et al. (2004), who report an infrared reflectance with strong water-ice absorption bands, and by Grundy et al. (2005), who establish a lower limit for the R-band albedo of 19%.

We also observe flat phase curves for some of our Centaur targets. The phase coefficients for 2002 GZ32, 20002 PN34, Asbolus, and Thereus are all below 0.1 mag deg^{-1}. Unlike the phase curves of the Pluto-scale TNOs, however, the flat phase curves for these much smaller bodies are not an indication of high-albedo, freshly-coated icy surfaces. The Centaurs we have observed all have spectral slopes, V_0–I_0, that are ~30% redder than solar (see discussion below). This is an indication that their surfaces are more heavily contaminated by organics (Cruikshank & Dalleore 2003) than the largest TNOs. The very low albedos of 0.059 ± 0.016 and 0.047 ± 0.015 that have been measured for Asbolus and Thereus (Stansberry et al. 2005) show that any ices on the surfaces of these two Centaurs are mixed with or covered by a much darker material. Furthermore, Centaurs approach the sun closer and more often than TNOs. Any methane ice on their surfaces would be rapidly outgassed and would not be retained owing to the low surface gravity of these relatively small bodies. Finally, the Centaurs we have observed have sizes in the

range that would be heavily eroded by collisions assuming they originated as bodies in the Kuiper Belt and have only recently (within ~100 Myr) acquired Centaur orbits (Durda & Stern 2000). Any initially pure water-ice covering would have been eroded away.

That the dark Centaurs and the bright Pluto-sized TNOs have similarly flat phase curves is not unexpected. Laboratory measurements of materials with the lowest and highest albedos also show that both materials can have flat phase curves. Nelson et al. (2000) measured the phase curves at small angles of highly reflective (> 90%) aluminum oxide powders with varying particles sizes. For particles size six times smaller than the wavelength of the illumination and for $\alpha = 0.5$ - 5.0 deg, they observed a linear phase curve with coefficient ~ 0.01 mag deg^{-1}. They also observed a strong opposition surge in this sample, but only for $\alpha < 0.5$ deg. Shkuratov et al. (2002) measured flat, linear phase curves over the range $\alpha = 0.2$ - 5.0 deg for both freshly fallen snow and for coarse graphite (respective coefficients 0.01 and 0.05 mag deg^{-1}). The graphite had a very weak opposition surge for $\alpha < 0.5$, but the snow did not.

4.2 wavelength-dependent phase curves

Another new property revealed by our survey is strong wavelength dependence for some of the TNO phase curves. This is shown most clearly by Figure 3, where we plot I' versus B' for all the targets we observed in both these bands. While most of the points lie close to the dashed line marking I' = B', there are significant outliers. In particular, the TNOs Quaoar and 2004 TY364 have unusually steep I-band phase curves (I' = 0.290 ± 0.038 and 0.413 ± 0.064 mag deg^{-1}, respectively) while their B-band phase curves are relatively flat (B' = 0.081 ± 0.028 and 0.136 ± 0.047 mag deg^{-1}, respectively). The TNO (47932) 2000 GN171 (not represented in Fig. 3 because we did not observe it in the B-band) has a large I-band coefficient (0.281 ± 0.033 mag deg^{-1}) and a significantly lower coefficient in the V-band (0.143 ± 0.031 mag deg^{-1}). For these three TNOs the phase coefficients increase proportionally with wavelength, with a similar dependence for all three bodies (0.56±0.13 and 0.53±0.17 mag deg^{-1} μm^{-1} for Quaoar and 2000 GN171, and 0.75±0.13 mag deg^{-1} μm^{-1} for 2004 TY364).

Figure 3 also shows that the TNOs with the flattest B-band phase curves generally have phase coefficients that are steeper in the I band. For the TNOs we observe with B' < 0.1 mag deg^{-1}, all five have I'/B' ratios larger than unity. The overall trend is for The TNO phase curves to become steeper with wavelength. For each band pass, the average phase coefficient for the TNOs and the standard error of the mean are <B'> = 0.12 ± 0.02, <V'> = 0.15 ± 0.02, and <I'> = 0.17 ± 0.02 mag deg^{-1}. Interestingly, none of the above trends hold true for the Centaurs. Their distribution is symmetric about the line, I' = B', in Fig 3 and their average phase coefficients do not change significantly with wavelength (<B'> = 0.07 ± 0.02, <V'> = 0.07 ± 0.02, and < I' > = 0.08 ± 0.020 mag deg^{-1}).

Previous investigators have not reported TNO phase curves with a significant dependence on wavelength, as we have observed. Sheppard and Jewitt (2002) report only the R-band measurements of TNO phase curves. Buratti et al. (2003) observe a small wavelength dependence to Pluto's phase coefficient, ranging from 0.037 ± 0.001 mag deg^{-1} in the B band to 0.032 ± 0.001 mag deg^{-1} in the V and R bands. Rousselot et al. (2003) measure the phase curve for 1999 TD10 in the B, V, and R bands and see no wavelength dependence. However, Rousselot et al. sampled the B and V phase curves of 1999 TD10 at only two phase angles and their

measurements uncertainties do not preclude a wavelength dependence at the level we see for 1999 TD10.

Voyager observations of Europa (Buratti & Veverka 1983) and of the Uranian satellites (Buratti et al. 1990) do show wavelength dependence to these phase curves at large phase angles (α = 5 – 50 deg), but the dependence is opposite to the trend we observe for TNOs at small phase angles. At these large phase angles the phase coefficient are small at all wavelengths (0.01 to 0.03 mag/deg). The spacecraft observations show, however, that the phase coefficients are generally larger by ~50% at ultraviolet wavelengths (~0.3 μm) compared to visible wavelengths (0.6 – 0.7 μm). This is believed to occur because of increased multiple scattering by the surface particles at longer wavelengths owing to an increase in albedo with wavelength. The multiple scattering fills in the shadows cast by the surface particles, and hence decreases the slope of the phase curve.

The reason we see an opposite trend for TNOs at small α could be that coherent backscatter rather than shadow hiding is the dominant cause of the opposition surge at small phase angles. For coherent backscatter, it is generally true that as the albedo and multiple scattering increases, the strength of the resultant opposition surge also increases. This is demonstrated in laboratory measurements by Shkuratov et al. (2002) who observe an increase in the slope of the phase curve at small phase angles for samples of increasing albedo. They also find that red pigments have steeper phase curves at small angles in red light, where they are most reflective, than in blue light where they are darker. Thus, for the distant bodies we observe at small angles, the phase coefficient may increase with wavelength because the albedo increases with wavelength.

This albedo dependence would also explain why the Centaurs we observe do not have significantly wavelength-dependent phase curves. These are the bodies with the lowest albedos in our target list. Of those with reported values (see Table 1), the average visual albedo for Centaurs is 0.056 ± 0.004, whereas the average for TNOs is 0.28 ± 0.10. With little or no multiple scattering, we should not expect coherent backscatter to dominate shadow hiding as the cause for the opposition surge. Hence we should not expect a significant dependence on wavelength.

We did observe one body, Nereid, with an apparent wavelength-dependence opposing the general trend for the other TNOs. As shown by Figure 3, we measure a phase coefficient for Nereid in the B-band (0.310 ± 0.019 mag deg^{-1}) significantly larger than in the I band (0.205 ± 0.037 mag deg^{-1}). However, in this case phase coefficients are not an appropriate measure of the opposition surge. As we discuss in Sec 4.3, below, Nereid has a significantly nonlinear phase curve at low phase angles (see Sec. 4.3, below). Because of the nonlinearity, the phase coefficients we measure are sensitive to the relative weighting of the observations in each filter as a function of α and to their range in α. Also, the uncertainties we calculate for the coefficent are incorrect because they assume a linear fit is valid. Hence, we cannot conclude that Nereid has a significantly wavelength-dependent phase curve based on this analysis.

4.3 non-linear phase curves

As discussed above, the slopes of the TNO and Centaur phase curves should become nonlinear and flatten out at larger phase angles. This flattening is not possible to verify for most

of our targets because they are too distant to observe at large phase angles. However, some of our Centaurs targets were close enough for us to observe them at $\alpha > 3$ deg. Figure 4 shows the extended phase curves for Thereus and Bienor. Here we have combined the separately determined B, V, and I curves for each object to determine an average curve with reduced error. We did this by shifting the B and V curves, respectively, by the values of B_0-V_0 and V_0- I_0 (from Table 4), combining with the I-band data, and then taking the median average of the measurements within the same phase angle bins that we use to separately determine the B, V, and I curves. The error bars are the standard error of the mean for each bin. Note that we have shifted the resulting curve for Bienor by +2.0 magnitudes to better compare with Thereus. Best-fit parabolas are superimposed on each curve.

Figure 4 shows that phase curves for both Thereus and Bienor can be fit by curves which flatten as α increases rather than a straight line. In both of these cases the residuals with respect to a parabolic fit are smaller than with respect to a linear fit. For Bienor, the linear fit yields reduced χ^2 =2.18 with 9 degrees of freedom whereas the parabolic fit yields reduced χ^2=1.98 with 8 degrees of freedom. For Thereus, the improvement decreases the reduced χ^2 from 1.13 with 10 degrees of freedom to 0.96 with 9 degrees of freedom. An F-test for significance of the improved fit (see Bevington 1992, Eq. 10-10) yields respective likelihoods of 21 % and 13% that these improvements are due to chance. While these improvements are marginal, the apparent curvature for both cases is in the direction we would expect as the opposition surge weakens with α. We also have observations of Centaurs 2002 PN34, 1999 TD10, and Asbolus at phase angles exceeding 3 deg, but we find no significant departure from linearity (i.e. no decrease in χ^2 going to a parabolic fit) for these phase curves.

Other than Thereus and Bienor, the only other target we observe with a noticeably nonlinear phase curve is Nereid. Figure 2 shows that the V-band curve has an inflection at α=1 deg, with the curve flattening at larger phase angles. This is similar to the inflection in the V-band phase curve we measured at an earlier epoch (Schaefer & Tourtellotte 2001). In our earlier analysis, we were able to fit the phase curve by two phase coefficients (0.38 mag deg^{-1} for α<1 deg and 0.03 mag deg^{-1} for $1 < \alpha < 2$ deg). We obtain similar coefficients if we split our current V-band data the same way (0.337±0.025 mag deg^{-1} for α<1 deg, –0.049±0.041 mag deg^{-1} for α>1 deg). Neither the B-band nor the I-band phase curves show this inflection, but they are less well resolved owing to poorer sampling at α>1 deg. Fitting the entire V-band phase curve with a parabola yields a reduced χ^2 of 1.38 with10 degrees of freedom whereas the reduced χ^2 for the linear fit is 8.47 with 11 degrees of freedom. Because an F test yields a likelihood of less than 0.1% that this improvement is due to chance and because we have independent observations from an earlier epoch showing the same curvature, we believe the curvature is significant.

4.4 color distribution versus phase angle

Figs 5 shows the B, V, I color distribution we observe for our targets, where the colors are the values B_0-V_0 and V_0- I_0 at $\alpha = 0$ deg (see Table 4). The figure also shows the sun's color and the mean B-V, V-I values listed by Hainaut & Delsanti (2002) for 100 TNOs and 24 Centaurs in their Minor Bodies in the Outer Solar System (MBOSS) database (www.sc.eso.org/~ohainaut/MBOSS). It is apparent that our targets have a color distribution similar to the larger MBOSS sample. A Kolmogorov-Smirnoff test (Press et al. 1986) yields

respective probabilities 0.95 and 0.27 that the B-V and V-I distributions are drawn from the same distributions as the MBOSS sample. We note, however, that the color distribution we see for the TNOs depends on the phase angle that we choose to represent the colors. This is because some of the TNOs have phase coefficients, and hence colors, that depend on wavelength (see Sec. 4.2). This may help explaining the disparate results reported by previous observers for the bimodality of the TNO color distribution (Tegler & Romanishin 1998, Jewitt & Luu 2001, Hainaut & Delsanti 2002). We will explore this effect in detail in a future analysis.

4.5 phase curve uncertainties

As we discuss above, there are a few cases where our linear fits to the measured phase curves yield χ^2 values with very low probabilities (see Table 5). We already addressed the problems for Nereid above (Sec 4.3). We address the remaining cases here.

Ixion. Here we had trouble fitting the B-band phase curve (the χ^2 likelihood is only 0.008). Examination of the plotted curve (Fig. 2) shows that two of the B-band data points (at α = 0.3 and 0.4 deg) have very large error bars (~0.25 mags). Throwing these two points out does not change the slope significantly, but raises the likelihood of the fit to 0.02 (χ^2 =19.8 for 9 degrees of freedom). The most likely explanation for the poor fit is that we have underestimated the measurement uncertainty.

1999 TC36. For this target the fit to the V-band curve is poor (χ^2 likelihood of 0.006). The measurement uncertainties are all about the same magnitude (~0.1). The most likely explanation for the poor fit is that we have underestimated the measurement error. There could also be rotational modulation that we have not subtracted. Ortiz et al. (2003) report variability of ~0.06 mags with indeterminate periodicity.

Bienor. Both the B and V phase curves are poorly fit (likelihoods of 0.001 and 0.002, respectively). As discussed above, however, the phase curve has a marginally significant inflection at $\alpha \sim 3$ deg. Fitting these curves with a parabolic function yields lower values for χ^2. Also, Bienor has significant rotational modulation. There is an uncertainty introduced by subtracting the light curve, and we do not account for this in our determination of χ^2.

2002 PN34. Both the V and I bands are poorly fit (reduced χ^2 of 3.01 and 2.23 with 9 and 11 degrees of freedom, respectively). Here it is likely that there is rotational modulation that we have not subtracted. We are able to find various rotation curves that reduce the scatter in the phase curves considerably after subtraction. For example, subtracting a rotation curve with period of 0.34473 d yields reduced χ^2 values of 0.93 for the V-band phase curve (7 degrees of freedom) and 1.33 for the I band (10 degrees of freedom). However, there several other periods that work as well to reduce the scatter.

5. CONCLUSIONS

This is paper presents the results of the first survey dedicated to the measurement of solar phase curves of distant solar system bodies. The target list is diverse, including TNOs and Centaurs with widely varying sizes, orbits, and surface properties. The measurement we present are numerous, uniformly sampling the entire observable phase curve of each body at several visible wavelengths. For bodies showing significant variability on short timescales, the measurements are sufficient to determine and subtract the rotational modulation from the phase curves. Our preliminary conclusions are as follows.

(1) Small phase coefficients (< 0.10 mag deg^{-1}) are a salient feature of the phase curves for Pluto-scale TNOs with neutral colors, high albedos, and icy surfaces. The low amplitude of the opposition surge may be related to frequent resurfacing of these bodies with fresh ices. It is likely that this constellation of properties extends to other large (> 100 km) bodies. If so, measuring the color and phase coefficient may be sufficient to recognize other high-albedo members of the TNO population that are otherwise too faint for direct albedo measurements.

(2) Nearly all of the distant bodies we observe have linear phase curves at phase angles < 2 deg. The phase curves must flatten at larger phase angles where the opposition surge diminishes. Our observations of two Centaurs show the flattening may begin at phase angles as small as ~3 deg. Only the phase curve for Nereid shows recognizable deflection at phase angles < 2 deg.

(3) Three TNOs have phase curves that are significantly wavelength dependent, with the I-band phase coefficient exceeding the B-band coefficient by more than a factor of 2. Their phase coefficients increase linearly with wavelength with proportionality 0.5 to 0.8 mag deg^{-1} μm^{-1}. There is a similar but much weaker trend for the TNO phase curves with flat B-band phase curves (B-band phase coefficients < 0.1 mag deg^{-1}). For these cases, coherent backscatter may be the dominant cause for the opposition surge at low phase angle. None of the Centaur phase curves are significantly wavelength dependent, consistent with recent observations that these bodies have very low albedos (~ 0. 05) for which the effect of coherent backscatter should be small.

(4) The color distribution we observe for the TNOs and Centaurs extrapolated to zero phase angle is generally consistent with the distributions determined from other surveys. However, the colors for some TNOs depend on the phase angle of the observations. It may be important to include this influence in the analyses of color distributions.

The above conclusions are the starting point for a succeeding paper examining in more detail the relation between the orbits, sizes, colors, phase coefficients, and albedos of the distant solar system bodies. Other investigators have found that the colors of the TNOs are related to their orbits, perhaps serving as markers for their place of origin within the solar system (Gomes 2003, Morbidelli & Brown 2002, Tegler & Romanishin 2003). A similar investigation of the orbital dependence of phase curves may further unravel the origins for compositional diversity in the Kuiper Belt.

This work was supported by the Planetary Astronomy program of the National Aeronautics and Space Administration under Grants NAG5-13533 and NAG5-13369. We specially thank our SMARTS queue manager, Rebeccah Winnick, for help scheduling the observations.

REFERENCES

Belskaya, I. N., & Shevchenko, V. G. 2000, Icarus, 147, 94

Bevington, P. R. 1992, "Data Reduction and Error Analysis for the Physical Sciences" (2nd Ed. New York: McGraw-Hill).

Bowell, E., & Lumme, K. 1979, in Asteroids I, ed. T. Gehrels (Tuscon: U. Arizona Press), 132

Bowell, E., Hapke, B., Domingue, D., Lumme, K., Peltoniemi, J., & Harrris, A. W. 1989, In Asteroids II, eds. R. P. Binzel, T. Gehrels, & M. S. Matthews (Tucson: U. Arizona Press), 524

Brown, M. E., Koresko, C. D., & Blake, G. A. 1998, AJ, 508, L175

Brown, M. E., & Trujillo, C. A. 2004, AJ, 127, 2413

Brown, M. E., Trujillo, C. A., & Rabinowitz, D. L. 2005, ApJ, 635, L97

Brown, M. E., Schaller, E. L., Roe, H. G., Rabinowitz, D. L, & Trujillo, C. A. 2006, ApJ Letters, in press.

Buratti, B. & Ververka, J. 1983, Icarus, 55, 93

Burrati, B., Wong, F., & Mosher, J. 1990, Icarus, 84, 203

Burrati, B. J., Gibson, J., & Mosher, J. A. 1992, AJ, 104, 1618

Buratti, B. J., Hillier, J. K., Heinze, A., Hicks, M. D., Tryka, K. A., Mosher, J. A., Ward, J., Garske, M., Young, J., & Atienza-Rosel, J. 2003, Icarus, 162, 171

Cruikshank, D. P., & Dalleore, C. M. 2003, EMP, 92, 315

Domingue, D. L., Lockwood, G. W., & Thompson, D. T.1995, Icarus, 115, 228

Durda, D. D., & Stern, S. A. 2000, Icarus ,145, 220

Gomes, R. 2003, Icarus, 161, 404

Gehrels, T. 1956, ApJ, 123, 331

Grundy, W. M., Knoll, K. S., & Stephens, D. C., 2005, Icarus, 176, 184

Hainaut, O. R., & Delsanti, A. C. 2002, A&A, 389, 641

Hapke. B. 1993, Theory of Reflectance and Emittance Spectroscopy (Cambridge: Cambridge U. Press).

Jewitt, D. C., & Luu, J. X. 2001, AJ, 122, 2099

Jewitt, D. C., & Luu, J. X. 2004, Nature 432, 731

Kern, S. D., McCarthy, D. W., Buie, M. W., Brown, R. H., Campins, H., & Rieke, M. 2000, ApJ, 542, L155

Licandro, J, Pinalla-Alonso, N., Pedani, M, Oliva, E., Tozzi, G. P., & Grundy, W. M. 2006, A&A, 445, L35.

Luu, J., & Jewitt, D. 1996, AJ, 112, 2310

Morbidelli, A., & Brown, M. E. 2002, in Comets II, ed. M. Festou, H. Keller, & H. Weaver (U. Arizona Press, Tucson), 175

Mueller, B. E. A., Hergenrother, C. W., Samarasinha, N. H., Campins, H., & McCarthy Jr, D. W., 2004, Icarus, 171, 506

Nelson, R. M., Hapke, B. W., Smythe, W. D., & Horn, L. J. 1998, Icarus, 131, 223

Nelson, R. M., Hapke, B. W., Smythe, W. D., & Spilker, L. J. 2000, Icarus, 147, 545

Ortiz, J. L, Gutierrez, P. J., Casanova, V., & Sota, A. 2003, A&A, 407, 1149

Pinilla-Alonso, N., Licandro, J., & Campins, H. 2004, BAAS, 36, 1007

Press, W. H., Flannery, B. P., Teukolsky, S. A., & Vetterling, W. T. 1986, Numerical Recipes (Cambridge: Cambridge U. Press)

Rabinowitz, D., Barkume, K., Brown, M. E., Roe, H., Schwartz, M., Tourtellotte, S., & Trujillo. C. 2006, ApJ, 639, 1238

Rousselot, P., Petit, J.-M., Poulet, F., Lacerda, P., & Ortiz, J. 2003, A&A, 407, 1139

Rousselot, P., Petit, J.-M., Poulet, F., & Sergeev, A. 2005, Icarus ,176, 478

Schaefer, B. E., & Rabinowitz, D. L. 2002, Icarus, 160, 52

Schaefer, B. E. & Tourtellotte, S. 2001, Icarus, 151, 112

Sheppard, S. S. & Jewitt, D. C. 2002, AJ, 124, 1757

Shkuratov, Yu., Ovcharenko, A., Zubko, E., Miloslavskaya, Muinonen, K., O., Piironen, J., Nelson, R., Smythe, W., Rosenbush, V., & Helfenstein, P. 2002, Icarus, 159, 396

Stansberry, J. A., Cruikshank, D. P., Grundy, W. G., Margot, J. L, Emery, J. P., Fernandez, Y. R, & Rieke, G. H. 2005, DPS meeting #37, #52.05

Stansberry, J. A., Grundy, W. G., Margot, J. L, Cruikshank, D. P., Emery, J. P., Rieke, G. H., & Trilling, D. E. 2006, ApJ, submitted

Stellingwerf, R. F. 1978, ApJ, 224, 953

Tegler, S.C. & Romanishin, W. 1998, Nature, 392, 49

Tegler, S. C., & Romanishin, W. 2003, "Color patterns in the Kuiper Belt: A possible primordial origin", Ap J 599, L49-L52

Tholen, D. J., & Tedesco, E. F. 1994, Icarus, 108, 200

Trujillo, C. A., Brown, M. E., Barkume, K. M., Schaller, E. L., & Rabinowitz, D. L. 2006, ApJ, submitted

Figure Captions

Figure 1. Rotational light curves we observe for the TNOs and Centaurs we with measured rotation periods. For each light curve, the combined B, V, and I observations of the respective target have been phased by the rotation period and averaged together within equally spaced phase bins. Gaps appear where there is no phase coverage. The respective rotation periods are listed in Table 1, with order in the table corresponding to top-to-bottom, left-to-right order in the figure.

Figure 2. Normalized reduced magnitude versus solar phase angle in Johnson filters B (hexagons), V (diamonds), R (circles), and I (squares) for the observed targets. For those objects with measured rotation curves (indicated by asterisks after the name), we have subtracted the rotational phase curve from the observations. Solid lines show linear fits to the phase curves. Dashed lines show the range of uncertainty for each fit. All curves are normalized so that the linear fits intercept zero phase angle at –0.3, 0.0, 0.3, and 0.6 mags for B, V, R, and I, respectively. As in Fig. 1, the top-to-bottom, left-to-right order corresponds to the order in Table 1.

Figure 3. Phase coefficients, I' versus B', for the observed targets, with TNOs and Centaurs represented by filled squares and unfilled triangles, respectively. The dashed line shows I' = B'.

Figure 4. Normalized reduced magnitude versus solar phase angle showing the full phase-angle coverage for (32532) Thereus (filled squares) and (54598) Bienor (unfilled triangles). The solid lines are best-fit parabolas. The curve for Bienor is shifted by +2.0 mag.

Figure 5. V-I versus B-V extrapolated to zero phase angle for the observed targets (with TNOs and Centaurs represented by filled squares and unfilled triangles, respectively). A circle represents the sun's values. Small squares show the mean B-V, V-I values listed by Hainaut & Delsanti (2002) for 100 TNOs (unfilled circles) and 24 Centaurs (filled circles) in their Minor Bodies in the Outer Solar System (MBOSS) database (www.sc.eso.org/~ohainaut/MBOSS).

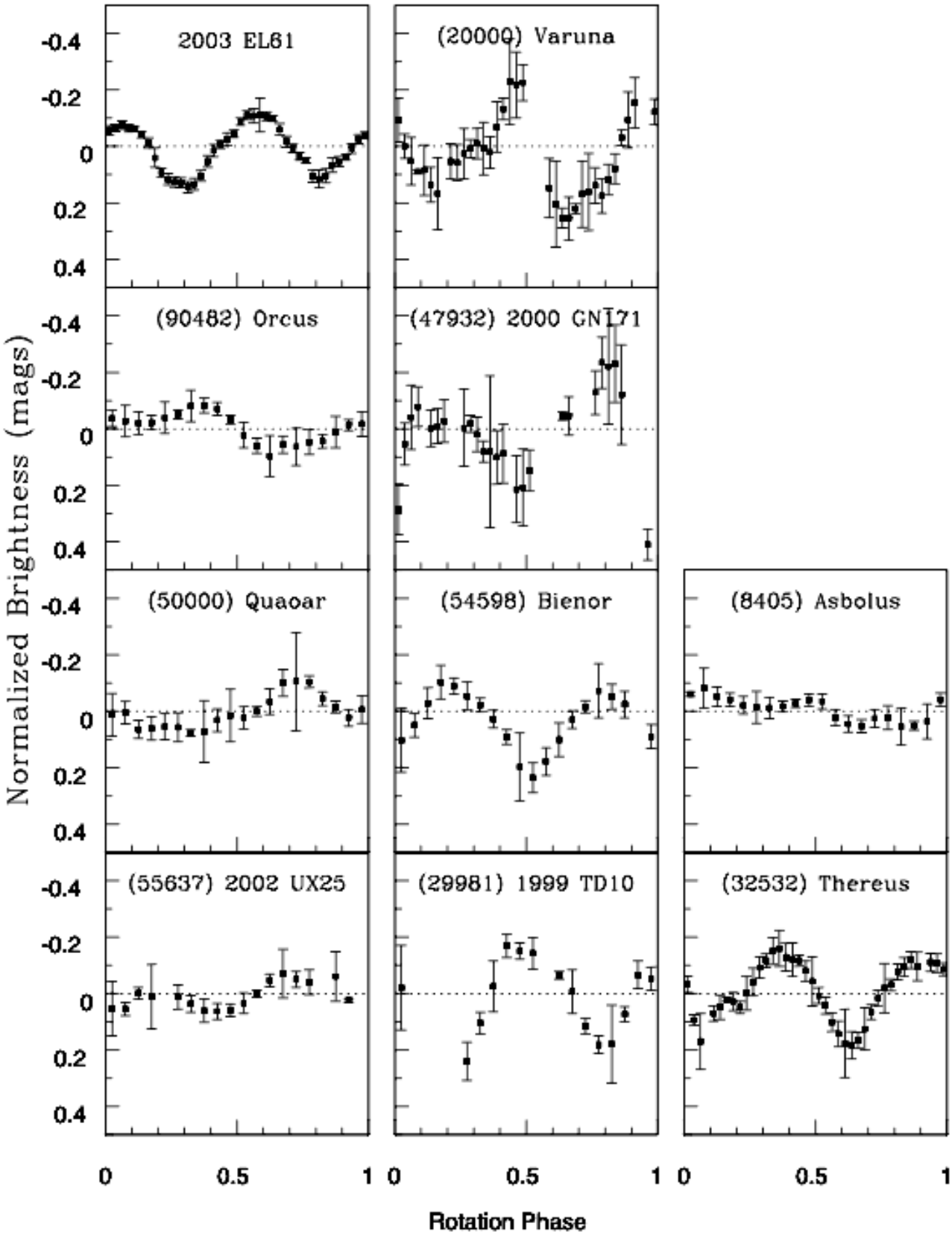
2003 EL61
(20000) Varuna
(90482) Orcus
(47932) 2000 GN171
(50000) Quaoar
(54598) Bienor
(8405) Asbolus
(55637) 2002 UX25
(29981) 1999 TD10
(32532) Thereus
Normalized Brightness (mags)
-0.4
-0.2
0
0.2
0.4
0
0.5
1
Rotation Phase

Figure 1

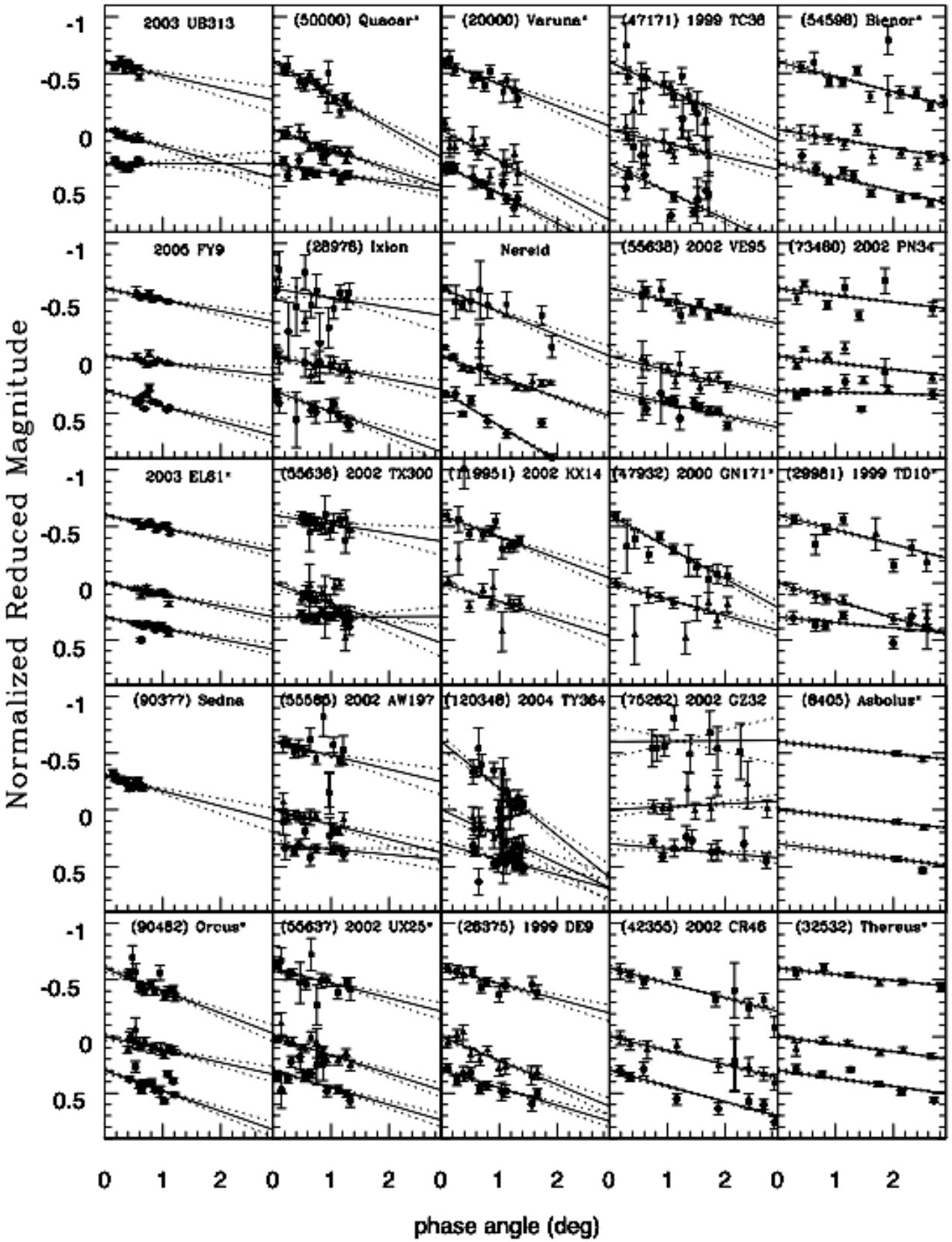
2003 UB313
(50000) Quaoar*
(20000) Varuna*
(47171) 1999 TC36
(54598) Bienor*
2005 FY9
(28978) Ixion
Nereid
(55638) 2002 VE95
(73480) 2002 PN34
2003 EL61*
(55636) 2002 TX300
(119951) 2002 KX14
(47932) 2000 GN171*
(29981) 1999 TD10*
(90377) Sedna
(55565) 2002 AW197
(120348) 2004 TY364
(75262) 2002 CZ32
(8405) Asbolus*
(90482) Orcus*
(55637) 2002 UX25*
(26375) 1999 DE9
(42355) 2002 CR46
(32532) Thereus*
Normalized Reduced Magnitude
-1
-0.5
0
0.5
0 1 2
phase angle (deg)

Figure 2

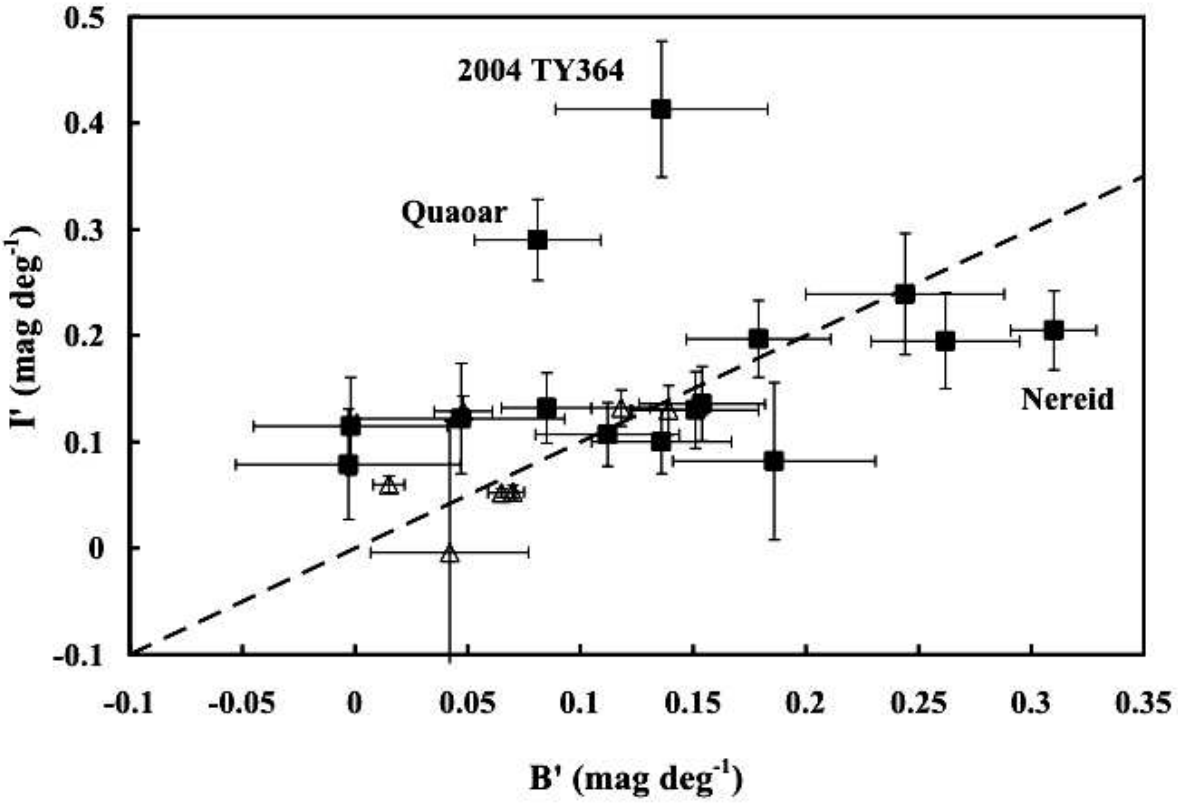
2004 TY364
Quaoar
Nereid
I' (mag deg-1)
B' (mag deg-1)
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.1
-0.05
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35

Figure 3

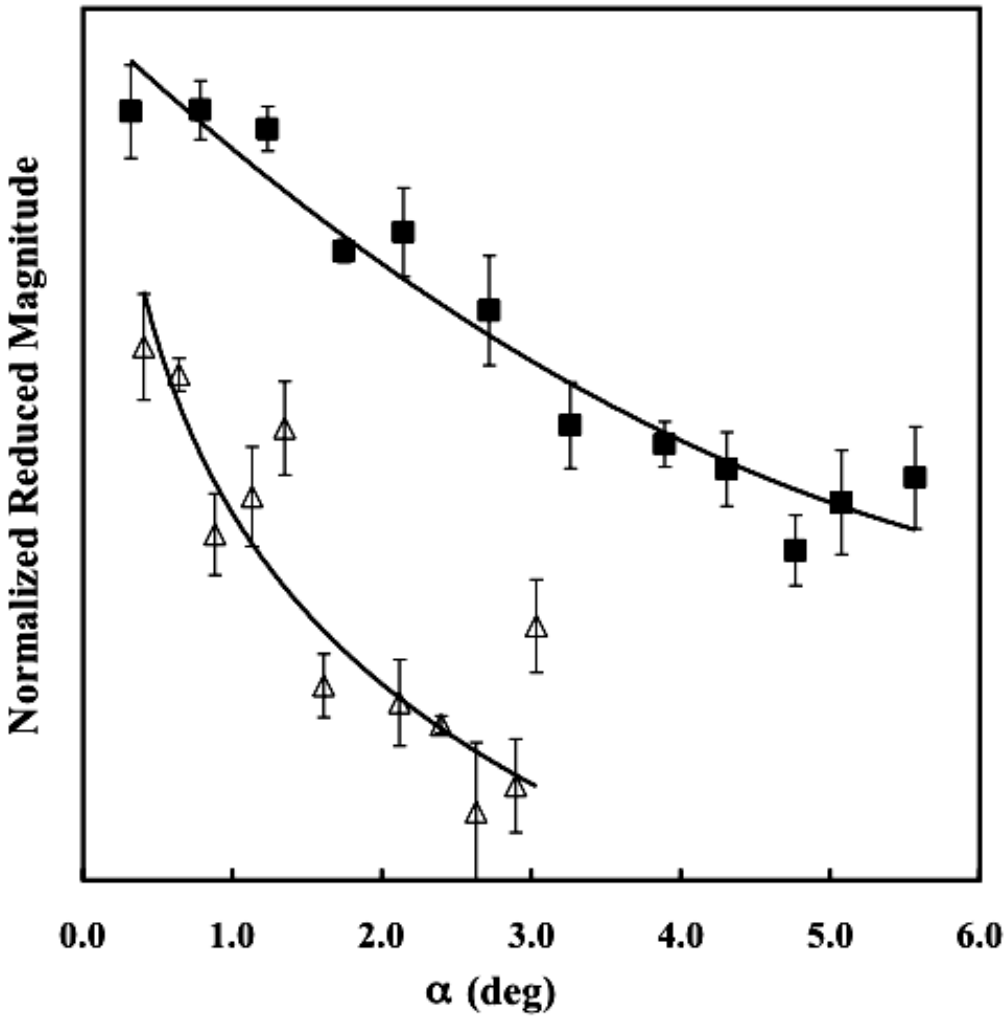

Figure 4

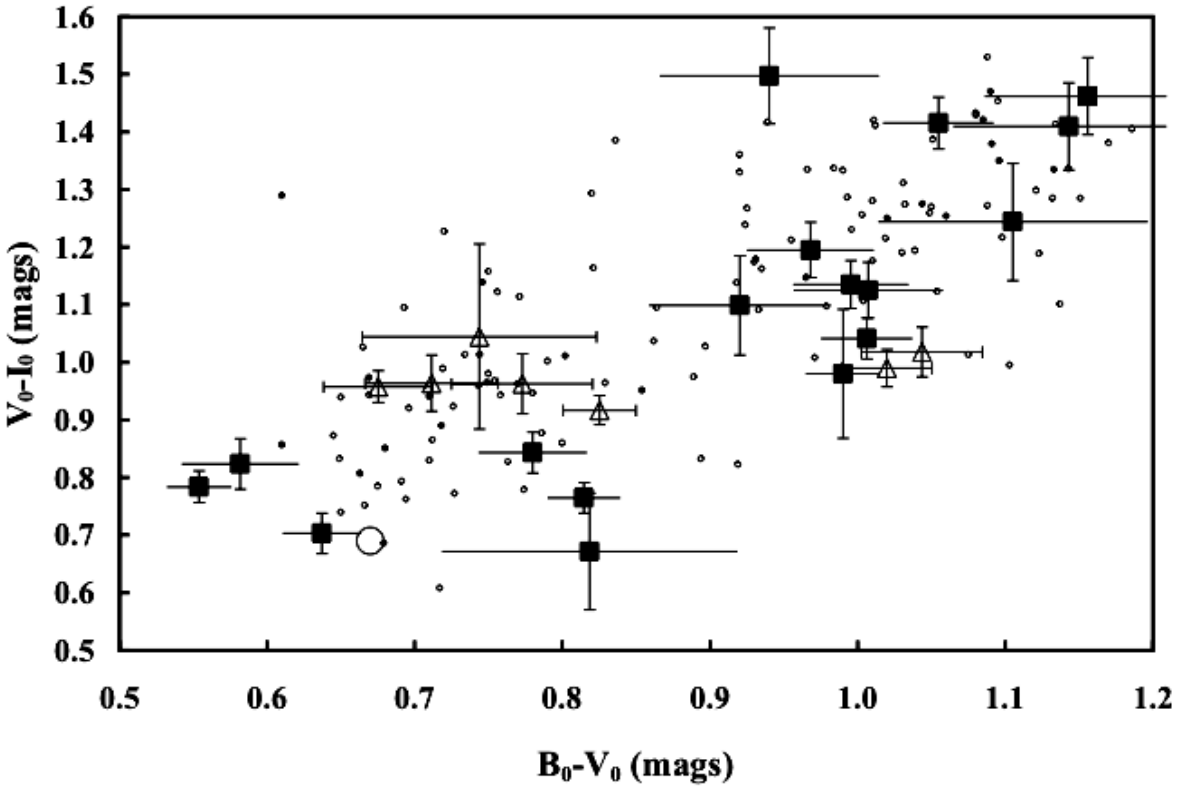
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
V0-I0 (mags)
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
B0-V0 (mags)

Figure 5

TABLE 1
Target Properties

Target	q (AU)	Q (AU)	H (mag)	i (deg)	e	a (AU)	Amp. (mag)	Amp. error	Period (d)	Period error (s)	p_v
TNOs:											
2003 UB313	37.8	97.6	-1.2	44.2	0.442	67.7					0.86±0.07[a]
2005 FY9	38.6	52.8	-0.4	29.0	0.155	45.7					
2003 EL61	35.1	51.5	0.1	28.2	0.189	43.3	0.28	0.04	0.163145	1	0.7±0.1[b]
(90377) Sedna	76.1	902.0	1.6	11.9	0.844	489.0					
(90482) Orcus	30.7	48.1	2.3	20.6	0.220	39.4	0.18	0.08	0.549517	4	
(50000) Quaoar	42.0	45.1	2.6	8.0	0.035	43.5	0.18	0.10	0.368333	30	0.10±0.03[c]
(28978) Ixion	30.1	49.2	3.2	19.6	0.241	39.6					0.24±0.13[d]
(55636) 2002 TX300	37.8	48.4	3.3	25.9	0.123	43.1					
(55565) 2002 AW197	41.2	53.6	3.3	24.4	0.131	47.4					0.134±0.046[d]
(55637) 2002 UX25	36.5	48.6	3.6	19.5	0.142	42.5	0.13	0.09	0.699250[e]	…	
(20000) Varuna	40.7	45.2	3.7	17.2	0.052	43.0	0.49	0.17	0.264342	9	0.155±0.075[d]
Nereid	29.8	30.3	4.4	1.77	0.009	30.1					0.18±0.02[f]
(119951) 2002 KX14	37.4	40.6	4.4	0.4	0.041	39.0					
(120348) 2004 TY364	36.1	41.3	4.5	24.9	0.067	38.7					
(38628) Huya	28.5	51.0	4.7	15.5	0.282	39.8					0.07±0.02[d]
(26375) 1999 DE9	32.3	79.4	4.7	7.6	0.421	55.9					
(47171) 1999 TC36	30.6	47.9	4.9	8.4	0.221	39.2					0.083±0.028[j]
(55638) 2002 VE95	28.0	50.3	5.3	16.4	0.285	39.2					
(47932) 2000 GN171	28.3	51.2	6.0	10.8	0.288	39.7	0.64	0.11	0.347046[g]	9	
Centaurs:											
(95626) 2002 GZ32	18.1	28.4	6.8	15.0	0.222	23.2					
(42355) 2002 CR46	17.5	58.8	7.2	2.4	0.541	38.2					0.068±0.023[d]
(54598) Bienor	13.2	19.8	7.6	20.8	0.201	16.5	0.34	0.08	0.382230	4	0.049±0.016[d]
(73480) 2002 PN34	13.3	48.5	8.2	16.6	0.569	30.9					
(29981) 1999 TD10	12.3	178.0	8.8	6.0	0.871	95.1	0.41	0.08	0.640917[h]	30	0.058±0.020[d]
(8405) Asbolus	6.8	29.1	9.0	17.6	0.620	18.0	0.14	0.10	0.186148[i]	…	0.059±0.016[d]

(32532) Thereus	8.5	12.7	9.0	20.4	0.198	10.6	0.34	0.08	0.347441	2	0.047±0.015[d]

Notes: Orbital elements and H values are from the Minor Planet Center (http://cfa-www.harvard.edu/cfa/ps/mpc.html). Nereid is given Neptune's orbital elements. Where referenced, periods are the values determined by others (2002 UX25 and (8405) Asbolus) or else they are one of several multiple solutions from our own analysis that matches values independently determined by others. Unreferenced periods were determined solely from the data we report in this paper or in Rabinowitz et al. (2006). References: [a]Brown et al. (2006), [b]Rabinowitz et al. (2006), [c] Brown & Trujillo (2004), [d]Stansberry et al. (2005), [e] Rousselot et al. (2005), [f]Brown et al. (1998), [g]Sheppard & Jewitt (2002), [h]Mueller et al (2004), [i]Kern et al (2000), [j]Stansberry et al. (2006).

TABLE 2
Observing Circumstances

Target	<V> (mag)	α_{min} (deg)	α_{max} (deg)	<d> (AU)	<r> (AU)	N_{obs}	Observing Dates	Exposure Times (s) B	V	R	I
TNOs											
2003 UB313	18.8	0.16	0.60	96.4	96.9	275	2005 Jan 6-9	300	180	180	180
							2005 Jul 10- 2006 Jan 26	300	180	180	180
2005 FY9	17.3	0.69	1.14	50.7	51.0	118	2005 Apr 4 – 2006 Apr 23	300	120	120	120
2003 EL61	17.6	0.51	1.11	50.7	51.2	382	2005 Jan 25 – 2006 Apr 23	300	120	120	120
(90377) Sedna	21.4	0.27	0.46	88.8	89.6	293	2003 Nov 26- Nov 27	-	-	300	-
							2003 Dec 2 – Dec 25	900	200	200	200
							2003 Dec 3 - 2006 Jan 29	-	-	600	-
(90482) Orcus	19.2	0.39	1.22	47.3	47.6	143	2004 Feb 21 – Jul 6	300	60	60	60
(50000) Quaoar	19.2	0.17	1.31	42.8	43.4	166	2003 Feb 25 – Jul 16	300	70	-	50
(28978) Ixion	20.2	0.03	1.32	42.3	42.9	144	2003 Feb 26 – Jul 25	400	100	-	60
(55636) 2002 TX300	19.6	0.49	1.34	40.2	41.0	99	2004 Aug 6 – Dec 20	360	90	-	90
(55565) 2002 AW197	20.4	0.17	1.22	46.7	47.2	130	2003 Feb 25 – June 3	600	140	-	100
							2003 Nov 29 – 2004 Feb 28	650	150	-	150
(55637) 2002 UX25	20.2	0.02	1.36	41.8	42.6	130	2003 Jul 24 – 2003 Dec 22	600	150	-	150
(20000) Varuna	20.4	0.06	1.32	42.6	43.3	78	2004 Dec 30 –2005 Apr 17	600	120	-	120
Nereid	19.3	0.01	1.92	29.3	30.1	250	2003 Mar 30 – Aug 20	240	70	-	40
							2005 May 15 - Oct 26	-	900	-	-
(119951) 2002 KX14	20.9	0.10	1.39	39.0	39.7	59	2003 Mar 2 – Jul 14	-	180	-	180

(120348) 2004 TY364	20.6	0.55	1.41	39.3	39.8	97	2004 Oct 13 – 2005 Jan 24	480	120	-	120
(38628) Huya	19.9	0.28	1.96	29.5	29.8	214	2000 Dec 11 - 2001 Jul 24	-	300	300	-
(26375) 1999 DE9	20.7	0.09	1.66	34.2	34.9	88	2005 Jan 30 – Jun 5	600	180	-	180
(47171) 1999 TC36	20.3	0.28	1.71	30.4	31.2	101	2003 Jul 24 – Dec 6	360	90	-	40
(55638) 2002 VE95	20.4	0.57	2.07	27.5	28.0	117	2004 Aug 6 – 2005 Jan 28	480	120	-	120
(47932) 2000 GN171	21.1	0.02	2.04	27.8	28.5	67	2003 Mar 3 – 2004 Jul 16	-	180	-	180
Centaurs:											
(95626) 2002 GZ32	20.5	0.73	2.80	20.1	20.9	88	2003 Feb 25 – Jul 26	600	140	-	100
(42355) 2002 CR46	20.3	0.19	2.90	16.8	17.6	52	2005 Jan 31 – Apr 13	300	120	-	120
(54598) Bienor	20.5	0.33	3.05	18.2	18.8	180	2003 Jul 24 – Nov 19 2005 Sep 20 – Dec 16	650 300	190 180	- -	70 180
(73480) 2002 PN34	20.0	0.33	4.30	13.1	13.5	206	2003 Apr 3 – Jul 19 2003 Jul 22 - Nov 13	400 900	100 200	- -	60 200
(29981) 1999T D10	20.4	0.26	3.99	13.1	13.9	71	2003 Aug 14 – Dec 2	720	180	-	180
(8405) Asbolus	17.6	1.97	7.81	6.4	7.2	117	2003 Jul 24 – Nov 7	30	30	-	30
(32532) Thereus	19.3	0.22	5.60	8.9	9.7	204	2003 Aug 2 – Nov 30 2005 Sep 24 – Dec 23	600 300	100 120	- -	100 120

Notes: Data for 2003 EL61 and Huya are reported in Rabinowitz et al. (2006) and Schaefer & Rabinowitz (2002), respectively.

TABLE 3
Measured Magnitudes for TNOs, Centaurs, and Nereid

Target	JD-2450000	Apparent Mag	Mag error	JD-245000 (corrected)	Reduced Mag	α (Deg)	r (AU)	d (AU)	Filter
2003 UB313	3377.56375	18.344	0.016	3377.56375	-1.520	0.580	96.937	96.884	R
2003 UB313	3377.56657	18.031	0.025	3377.56657	-1.833	0.580	96.937	96.884	I
2003 UB313	3377.57628	18.360	0.018	3377.57628	-1.504	0.580	96.937	96.884	R
2003 UB313	3377.57909	17.894	0.024	3377.57909	-1.970	0.580	96.937	96.884	I
2003 UB313	3378.55277	18.271	0.045	3378.55267	-1.593	0.580	96.937	96.901	R
2003 UB313	3378.55559	18.044	0.028	3378.55549	-1.820	0.580	96.937	96.901	I
2003 UB313	3378.55907	19.294	0.022	3378.55897	-0.570	0.580	96.937	96.901	B
2003 UB313	3378.56529	18.421	0.026	3378.56519	-1.443	0.580	96.937	96.901	R
2003 UB313	3378.56810	17.989	0.024	3378.56800	-1.875	0.580	96.937	96.901	I
2003 UB313	3379.55241	19.559	0.034	3379.55222	-0.305	0.581	96.937	96.917	B
2003 UB313	3379.55864	18.367	0.034	3379.55845	-1.497	0.581	96.937	96.917	R
2003 UB313	3379.56145	18.097	0.023	3379.56126	-1.767	0.581	96.937	96.917	I
2003 UB313	3379.56492	19.694	0.045	3379.56473	-0.170	0.581	96.937	96.918	B
2003 UB313	3379.57112	18.171	0.037	3379.57093	-1.693	0.581	96.937	96.918	R
2003 UB313	3379.57393	17.972	0.027	3379.57374	-1.892	0.581	96.937	96.918	I
2003 UB313	3380.57359	18.652	0.031	3380.57330	-1.213	0.581	96.937	96.934	V
2003 UB313	3380.57635	18.342	0.033	3380.57606	-1.523	0.581	96.937	96.934	R
2003 UB313	3380.57917	17.998	0.026	3380.57888	-1.867	0.581	96.937	96.935	I
2003 UB313	3380.58267	19.522	0.046	3380.58238	-0.343	0.581	96.937	96.935	B
2003 UB313	3380.58613	18.748	0.052	3380.58584	-1.117	0.581	96.937	96.935	V
2003 UB313	3380.58889	18.362	0.018	3380.58860	-1.503	0.581	96.937	96.935	R
2003 UB313	3380.59171	18.048	0.028	3380.59142	-1.817	0.581	96.937	96.935	I
2003 UB313	3562.91503	19.538	0.022	3562.91471	-0.326	0.601	96.912	96.939	B
2003 UB313	3562.91843	18.825	0.021	3562.91811	-1.039	0.601	96.912	96.939	V
2003 UB313	3562.92381	18.111	0.024	3562.92349	-1.753	0.601	96.912	96.939	I
2003 UB313	3563.87390	19.503	0.029	3563.87367	-0.361	0.601	96.912	96.923	B
2003 UB313	3563.87730	18.805	0.037	3563.87707	-1.059	0.601	96.912	96.923	V
2003 UB313	3563.87997	18.845	0.028	3563.87974	-1.019	0.601	96.912	96.923	V
2003 UB313	3563.88269	18.121	0.035	3563.88246	-1.743	0.601	96.912	96.923	I
2003 UB313	3568.87152	19.514	0.020	3568.87177	-0.348	0.600	96.911	96.841	B
2003 UB313	3568.87493	18.773	0.023	3568.87518	-1.089	0.600	96.911	96.841	V
2003 UB313	3568.87759	18.778	0.023	3568.87784	-1.084	0.600	96.911	96.841	V
2003 UB313	3568.88032	18.102	0.029	3568.88057	-1.760	0.600	96.911	96.841	I
2003 UB313	3570.89190	19.503	0.063	3570.89234	-0.358	0.599	96.911	96.808	B
2003 UB313	3570.89530	18.823	0.029	3570.89574	-1.038	0.599	96.911	96.808	V
2003 UB313	3570.89796	18.764	0.027	3570.89840	-1.097	0.599	96.911	96.808	V
2003 UB313	3570.90069	18.024	0.029	3570.90113	-1.837	0.599	96.911	96.808	I
2003 UB313	3573.80593	19.577	0.095	3573.80665	-0.283	0.596	96.911	96.760	B
2003 UB313	3573.80934	18.781	0.054	3573.81006	-1.079	0.596	96.911	96.760	V
2003 UB313	3573.81201	18.795	0.054	3573.81273	-1.065	0.596	96.911	96.760	V
2003 UB313	3573.81474	18.106	0.041	3573.81546	-1.754	0.596	96.911	96.760	I
2003 UB313	3575.80834	19.503	0.070	3575.80924	-0.357	0.593	96.910	96.727	B
2003 UB313	3575.81174	18.766	0.054	3575.81264	-1.094	0.593	96.910	96.727	V
2003 UB313	3575.81440	18.846	0.059	3575.81530	-1.014	0.592	96.910	96.727	V
2003 UB313	3575.81712	18.113	0.048	3575.81803	-1.747	0.592	96.910	96.727	I

2003 UB313	3575.87227	18.890	0.086	3575.87318	-0.970	0.592	96.910	96.726	V
2003 UB313	3575.87227	18.867	0.065	3575.87318	-0.993	0.592	96.910	96.726	V
2003 UB313	3575.87297	19.525	0.059	3575.87388	-0.335	0.592	96.910	96.726	B
2003 UB313	3577.80743	19.508	0.061	3577.80852	-0.351	0.589	96.910	96.695	B
2003 UB313	3577.81083	18.781	0.053	3577.81192	-1.078	0.589	96.910	96.695	V
2003 UB313	3577.81349	18.879	0.056	3577.81458	-0.980	0.589	96.910	96.695	V
2003 UB313	3577.81622	18.015	0.054	3577.81731	-1.844	0.589	96.910	96.695	I
2003 UB313	3583.81072	19.494	0.047	3583.81236	-0.363	0.574	96.909	96.600	B
2003 UB313	3583.81412	18.838	0.104	3583.81576	-1.019	0.574	96.909	96.599	V
2003 UB313	3583.81678	18.726	0.059	3583.81842	-1.131	0.574	96.909	96.599	V
2003 UB313	3585.85930	19.512	0.018	3585.86113	-0.344	0.568	96.909	96.568	B
2003 UB313	3585.86270	18.770	0.019	3585.86453	-1.086	0.568	96.909	96.568	V
2003 UB313	3585.86536	18.733	0.020	3585.86719	-1.123	0.568	96.909	96.568	V
2003 UB313	3585.86809	18.019	0.021	3585.86992	-1.837	0.568	96.909	96.567	I
2003 UB313	3586.80778	19.502	0.020	3586.80969	-0.354	0.565	96.909	96.553	B
2003 UB313	3586.81118	18.780	0.020	3586.81309	-1.076	0.565	96.909	96.553	V
2003 UB313	3586.81385	18.792	0.021	3586.81576	-1.064	0.565	96.909	96.553	V
2003 UB313	3586.81657	18.004	0.023	3586.81848	-1.852	0.565	96.909	96.553	I
2003 UB313	3587.84987	19.468	0.043	3587.85187	-0.387	0.561	96.909	96.537	B
2003 UB313	3587.85327	18.806	0.043	3587.85527	-1.049	0.561	96.909	96.537	V
2003 UB313	3587.85593	18.761	0.046	3587.85793	-1.094	0.561	96.909	96.537	V
2003 UB313	3587.85866	18.017	0.054	3587.86067	-1.838	0.561	96.909	96.537	I
2003 UB313	3588.83796	19.495	0.035	3588.84005	-0.360	0.558	96.908	96.522	B
2003 UB313	3588.84136	18.727	0.024	3588.84345	-1.128	0.558	96.908	96.522	V
2003 UB313	3588.84402	18.793	0.022	3588.84611	-1.062	0.558	96.908	96.522	V
2003 UB313	3588.84674	18.015	0.045	3588.84883	-1.840	0.558	96.908	96.522	I
2003 UB313	3590.85949	19.523	0.016	3590.86176	-0.331	0.550	96.908	96.491	B
2003 UB313	3590.86290	18.799	0.017	3590.86517	-1.055	0.550	96.908	96.491	V
2003 UB313	3590.86556	18.767	0.018	3590.86783	-1.087	0.550	96.908	96.491	V
2003 UB313	3590.86829	18.013	0.021	3590.87056	-1.841	0.550	96.908	96.491	I
2003 UB313	3591.80832	19.495	0.019	3591.81067	-0.359	0.546	96.908	96.477	B
2003 UB313	3591.81172	18.789	0.020	3591.81407	-1.065	0.546	96.908	96.477	V
2003 UB313	3591.81438	18.773	0.019	3591.81673	-1.081	0.546	96.908	96.477	V
2003 UB313	3591.81710	18.001	0.022	3591.81945	-1.853	0.546	96.908	96.477	I
2003 UB313	3592.87528	19.555	0.019	3592.87772	-0.299	0.542	96.908	96.461	B
2003 UB313	3592.87868	18.853	0.020	3592.88112	-1.001	0.542	96.908	96.461	V
2003 UB313	3592.88134	18.823	0.020	3592.88378	-1.031	0.542	96.908	96.461	V
2003 UB313	3592.88407	18.027	0.024	3592.88651	-1.827	0.542	96.908	96.461	I
2003 UB313	3594.79250	19.400	0.108	3594.79510	-0.453	0.534	96.908	96.434	B
2003 UB313	3594.79591	18.756	0.129	3594.79851	-1.097	0.534	96.908	96.433	V
2003 UB313	3594.79857	18.886	0.203	3594.80117	-0.967	0.534	96.908	96.433	V
2003 UB313	3594.80132	18.091	0.179	3594.80392	-1.762	0.534	96.908	96.433	I
2003 UB313	3596.81059	19.489	0.111	3596.81336	-0.363	0.524	96.907	96.405	B
2003 UB313	3596.81454	18.779	0.130	3596.81731	-1.073	0.524	96.907	96.405	V
2003 UB313	3596.81454	18.725	0.163	3596.81731	-1.127	0.524	96.907	96.405	V
2003 UB313	3597.84243	19.430	0.099	3597.84528	-0.422	0.519	96.907	96.390	B
2003 UB313	3600.82293	19.595	0.053	3600.82602	-0.256	0.504	96.907	96.349	B
2003 UB313	3600.82632	18.818	0.043	3600.82941	-1.033	0.504	96.907	96.349	V
2003 UB313	3600.82898	18.840	0.049	3600.83207	-1.011	0.504	96.907	96.349	V
2003 UB313	3600.83171	17.963	0.044	3600.83480	-1.888	0.504	96.907	96.349	I

2003 UB313	3603.86600	19.453	0.051	3603.86932	-0.397	0.487	96.906	96.308	B
2003 UB313	3603.86940	18.772	0.045	3603.87272	-1.078	0.487	96.906	96.308	V
2003 UB313	3603.87207	18.755	0.042	3603.87539	-1.095	0.487	96.906	96.308	V
2003 UB313	3603.87479	17.962	0.029	3603.87812	-1.888	0.487	96.906	96.308	I
2003 UB313	3606.82469	19.483	0.078	3606.82823	-0.366	0.470	96.906	96.270	B
2003 UB313	3606.82810	18.696	0.061	3606.83164	-1.153	0.470	96.906	96.270	V
2003 UB313	3606.83076	18.760	0.062	3606.83430	-1.089	0.470	96.906	96.270	V
2003 UB313	3606.83348	17.969	0.061	3606.83702	-1.880	0.470	96.906	96.270	I
2003 UB313	3608.80188	19.580	0.033	3608.80556	-0.269	0.458	96.906	96.246	B
2003 UB313	3608.80529	18.772	0.039	3608.80898	-1.077	0.458	96.906	96.246	V
2003 UB313	3608.80795	18.809	0.026	3608.81164	-1.040	0.458	96.906	96.246	V
2003 UB313	3608.81068	18.037	0.030	3608.81437	-1.812	0.458	96.906	96.246	I
2003 UB313	3619.75138	19.573	0.026	3619.75577	-0.273	0.383	96.904	96.125	B
2003 UB313	3619.75479	18.802	0.033	3619.75918	-1.044	0.383	96.904	96.125	V
2003 UB313	3619.75745	18.776	0.039	3619.76184	-1.070	0.383	96.904	96.125	V
2003 UB313	3619.76018	17.912	0.029	3619.76457	-1.934	0.383	96.904	96.124	I
2003 UB313	3621.72881	19.561	0.020	3621.73331	-0.284	0.369	96.904	96.105	B
2003 UB313	3621.73221	18.797	0.020	3621.73671	-1.048	0.369	96.904	96.105	V
2003 UB313	3621.73487	18.766	0.021	3621.73937	-1.079	0.369	96.904	96.105	V
2003 UB313	3621.73760	17.987	0.025	3621.74210	-1.858	0.369	96.904	96.105	I
2003 UB313	3624.70865	19.554	0.075	3624.71330	-0.291	0.347	96.904	96.078	B
2003 UB313	3624.71205	18.743	0.055	3624.71670	-1.102	0.347	96.904	96.078	V
2003 UB313	3624.71471	18.891	0.077	3624.71936	-0.954	0.347	96.904	96.078	V
2003 UB313	3624.71744	17.957	0.056	3624.72209	-1.888	0.347	96.904	96.078	I
2003 UB313	3626.70852	19.565	0.250	3626.71327	-0.279	0.331	96.903	96.061	B
2003 UB313	3626.71192	18.607	0.133	3626.71667	-1.237	0.331	96.903	96.061	V
2003 UB313	3635.69096	19.493	0.087	3635.69608	-0.350	0.262	96.902	95.997	B
2003 UB313	3635.69437	18.750	0.094	3635.69949	-1.093	0.262	96.902	95.997	V
2003 UB313	3635.69704	18.726	0.090	3635.70216	-1.117	0.262	96.902	95.997	V
2003 UB313	3635.69977	17.955	0.129	3635.70489	-1.888	0.262	96.902	95.997	I
2003 UB313	3638.68977	19.523	0.020	3638.69499	-0.320	0.240	96.902	95.981	B
2003 UB313	3638.69316	18.787	0.021	3638.69838	-1.056	0.240	96.902	95.981	V
2003 UB313	3638.69583	18.744	0.021	3638.70105	-1.099	0.240	96.902	95.981	V
2003 UB313	3638.69856	17.967	0.025	3638.70378	-1.876	0.240	96.902	95.981	I
2003 UB313	3640.69036	18.777	0.020	3640.69563	-1.065	0.225	96.901	95.971	V
2003 UB313	3640.69036	18.742	0.021	3640.69563	-1.100	0.225	96.901	95.971	V
2003 UB313	3640.69036	18.001	0.021	3640.69563	-1.841	0.225	96.901	95.971	I
2003 UB313	3640.69106	19.528	0.019	3640.69633	-0.314	0.225	96.901	95.971	B
2003 UB313	3644.76809	19.508	0.017	3644.77346	-0.334	0.198	96.901	95.955	B
2003 UB313	3644.77150	18.707	0.019	3644.77687	-1.135	0.198	96.901	95.955	V
2003 UB313	3644.77416	18.724	0.019	3644.77953	-1.118	0.198	96.901	95.955	V
2003 UB313	3644.77688	17.955	0.026	3644.78225	-1.887	0.198	96.901	95.955	I
2003 UB313	3646.72410	19.446	0.053	3646.72950	-0.396	0.186	96.901	95.948	B
2003 UB313	3646.72751	18.733	0.053	3646.73291	-1.109	0.186	96.901	95.948	V
2003 UB313	3646.73017	18.768	0.042	3646.73557	-1.074	0.186	96.901	95.948	V
2003 UB313	3646.73290	17.940	0.042	3646.73830	-1.902	0.186	96.901	95.948	I
2003 UB313	3650.66963	19.451	0.023	3650.67509	-0.391	0.165	96.900	95.939	B
2003 UB313	3650.67304	18.741	0.021	3650.67850	-1.101	0.165	96.900	95.939	V
2003 UB313	3650.67570	18.705	0.021	3650.68116	-1.137	0.165	96.900	95.939	V
2003 UB313	3650.67843	17.960	0.026	3650.68389	-1.882	0.165	96.900	95.939	I

2003 UB313	3652.65040	19.520	0.020	3652.65587	-0.322	0.158	96.900	95.936	B
2003 UB313	3652.65381	18.721	0.020	3652.65928	-1.121	0.158	96.900	95.936	V
2003 UB313	3652.65647	18.771	0.021	3652.66194	-1.071	0.158	96.900	95.936	V
2003 UB313	3652.65920	18.071	0.023	3652.66467	-1.771	0.158	96.900	95.936	I
2003 UB313	3664.64581	19.391	0.026	3664.65125	-0.451	0.163	96.898	95.943	B
2003 UB313	3664.65150	18.626	0.024	3664.65694	-1.216	0.163	96.898	95.943	V
2003 UB313	3666.56716	19.473	0.021	3666.57257	-0.369	0.172	96.898	95.947	B
2003 UB313	3666.57056	18.681	0.022	3666.57597	-1.161	0.172	96.898	95.948	V
2003 UB313	3666.57323	18.670	0.022	3666.57864	-1.172	0.172	96.898	95.948	V
2003 UB313	3669.66987	19.363	0.055	3669.67522	-0.479	0.189	96.897	95.958	B
2003 UB313	3669.67328	18.783	0.029	3669.67863	-1.059	0.189	96.897	95.958	V
2003 UB313	3669.67593	18.781	0.031	3669.68128	-1.061	0.189	96.897	95.958	V
2003 UB313	3669.67866	18.084	0.047	3669.68401	-1.758	0.189	96.897	95.958	I
2003 UB313	3672.62461	19.477	0.025	3672.62989	-0.365	0.207	96.897	95.970	B
2003 UB313	3672.62801	18.793	0.030	3672.63329	-1.049	0.207	96.897	95.970	V
2003 UB313	3672.63068	18.781	0.026	3672.63596	-1.061	0.207	96.897	95.970	V
2003 UB313	3672.63341	17.937	0.029	3672.63869	-1.905	0.208	96.897	95.970	I
2003 UB313	3674.60098	19.531	0.021	3674.60620	-0.311	0.221	96.897	95.979	B
2003 UB313	3674.60437	18.752	0.018	3674.60959	-1.090	0.221	96.897	95.979	V
2003 UB313	3674.60703	18.761	0.026	3674.61225	-1.081	0.221	96.897	95.979	V
2003 UB313	3674.60975	17.971	0.111	3674.61497	-1.871	0.221	96.897	95.979	I
2003 UB313	3676.59101	19.524	0.025	3676.59617	-0.319	0.235	96.897	95.990	B
2003 UB313	3676.59441	18.775	0.023	3676.59957	-1.068	0.235	96.897	95.990	V
2003 UB313	3676.59706	18.782	0.025	3676.60222	-1.061	0.235	96.897	95.990	V
2003 UB313	3676.59978	17.968	0.030	3676.60494	-1.875	0.235	96.897	95.990	I
2003 UB313	3678.62086	19.507	0.017	3678.62595	-0.336	0.250	96.896	96.002	B
2003 UB313	3678.62425	18.753	0.019	3678.62934	-1.090	0.250	96.896	96.002	V
2003 UB313	3678.62691	18.732	0.024	3678.63200	-1.111	0.250	96.896	96.002	V
2003 UB313	3678.62964	17.989	0.024	3678.63473	-1.854	0.250	96.896	96.002	I
2003 UB313	3681.61878	19.532	0.026	3681.62376	-0.311	0.273	96.896	96.022	B
2003 UB313	3681.62216	18.780	0.035	3681.62714	-1.063	0.273	96.896	96.022	V
2003 UB313	3681.62483	18.755	0.030	3681.62981	-1.088	0.273	96.896	96.022	V
2003 UB313	3681.62755	17.944	0.039	3681.63253	-1.899	0.273	96.896	96.022	I
2003 UB313	3686.55509	19.566	0.053	3686.55985	-0.278	0.311	96.895	96.060	B
2003 UB313	3686.55848	18.760	0.040	3686.56324	-1.084	0.311	96.895	96.060	V
2003 UB313	3686.56114	18.760	0.050	3686.56590	-1.084	0.311	96.895	96.060	V
2003 UB313	3686.56386	18.030	0.040	3686.56862	-1.814	0.311	96.895	96.060	I
2003 UB313	3688.58497	19.517	0.082	3688.58963	-0.328	0.326	96.895	96.078	B
2003 UB313	3688.58838	18.887	0.076	3688.59304	-0.958	0.326	96.895	96.078	V
2003 UB313	3688.59107	18.745	0.081	3688.59573	-1.100	0.326	96.895	96.078	V
2003 UB313	3688.59381	18.118	0.078	3688.59847	-1.727	0.326	96.895	96.078	I
2003 UB313	3690.63730	19.535	0.066	3690.64185	-0.310	0.342	96.895	96.096	B
2003 UB313	3690.64070	18.741	0.048	3690.64525	-1.104	0.342	96.895	96.096	V
2003 UB313	3690.64336	18.670	0.045	3690.64791	-1.175	0.342	96.895	96.096	V
2003 UB313	3690.64609	18.050	0.038	3690.65064	-1.795	0.342	96.895	96.096	I
2003 UB313	3695.57196	19.504	0.022	3695.57623	-0.342	0.378	96.894	96.145	B
2003 UB313	3695.57536	18.808	0.019	3695.57963	-1.038	0.378	96.894	96.145	V
2003 UB313	3695.57802	18.761	0.022	3695.58229	-1.085	0.378	96.894	96.145	V
2003 UB313	3695.58075	17.965	0.024	3695.58502	-1.881	0.378	96.894	96.145	I
2003 UB313	3699.59219	19.575	0.017	3699.59620	-0.272	0.406	96.893	96.189	B

2003 UB313	3699.59559	18.784	0.018	3699.59960	-1.063	0.406	96.893	96.190	V
2003 UB313	3699.59825	18.761	0.018	3699.60226	-1.086	0.406	96.893	96.190	V
2003 UB313	3699.60097	17.976	0.021	3699.60498	-1.871	0.406	96.893	96.190	I
2003 UB313	3701.58713	19.563	0.020	3701.59101	-0.285	0.420	96.893	96.213	B
2003 UB313	3701.59052	18.786	0.020	3701.59440	-1.062	0.420	96.893	96.213	V
2003 UB313	3701.59318	18.798	0.020	3701.59706	-1.050	0.420	96.893	96.213	V
2003 UB313	3701.59589	18.014	0.027	3701.59977	-1.834	0.420	96.893	96.213	I
2003 UB313	3703.61274	19.553	0.017	3703.61648	-0.295	0.433	96.893	96.237	B
2003 UB313	3703.61614	18.818	0.018	3703.61988	-1.030	0.433	96.893	96.237	V
2003 UB313	3703.61883	18.798	0.018	3703.62257	-1.050	0.433	96.893	96.237	V
2003 UB313	3705.60398	19.581	0.026	3705.60757	-0.268	0.446	96.893	96.262	B
2003 UB313	3705.60738	18.820	0.026	3705.61097	-1.029	0.446	96.893	96.262	V
2003 UB313	3705.61006	18.808	0.021	3705.61365	-1.041	0.446	96.893	96.262	V
2003 UB313	3705.61281	17.962	0.045	3705.61640	-1.887	0.446	96.893	96.262	I
2003 UB313	3708.56808	19.530	0.022	3708.57145	-0.320	0.464	96.892	96.300	B
2003 UB313	3708.57151	18.817	0.021	3708.57488	-1.033	0.464	96.892	96.300	V
2003 UB313	3708.57419	18.810	0.021	3708.57756	-1.040	0.464	96.892	96.301	V
2003 UB313	3708.57694	18.094	0.023	3708.58031	-1.756	0.464	96.892	96.301	I
2003 UB313	3710.58299	19.523	0.019	3710.58620	-0.327	0.475	96.892	96.328	B
2003 UB313	3710.58640	18.868	0.020	3710.58961	-0.982	0.475	96.892	96.328	V
2003 UB313	3710.58909	18.790	0.019	3710.59230	-1.060	0.475	96.892	96.328	V
2003 UB313	3710.59184	18.085	0.022	3710.59505	-1.765	0.476	96.892	96.328	I
2003 UB313	3712.56924	19.534	0.027	3712.57230	-0.317	0.486	96.892	96.355	B
2003 UB313	3712.57265	18.812	0.021	3712.57571	-1.039	0.486	96.892	96.355	V
2003 UB313	3712.57534	18.785	0.020	3712.57840	-1.066	0.486	96.892	96.355	V
2003 UB313	3712.57809	18.029	0.022	3712.58115	-1.822	0.486	96.892	96.355	I
2003 UB313	3714.56097	19.485	0.042	3714.56386	-0.366	0.497	96.891	96.383	B
2003 UB313	3714.56438	18.777	0.039	3714.56727	-1.074	0.497	96.891	96.383	V
2003 UB313	3714.56707	18.783	0.038	3714.56996	-1.068	0.497	96.891	96.383	V
2003 UB313	3714.56982	17.947	0.037	3714.57271	-1.904	0.497	96.891	96.383	I
2003 UB313	3716.56756	19.607	0.084	3716.57029	-0.245	0.507	96.891	96.412	B
2003 UB313	3716.57097	18.886	0.072	3716.57370	-0.966	0.507	96.891	96.412	V
2003 UB313	3716.57366	18.867	0.075	3716.57639	-0.985	0.507	96.891	96.412	V
2003 UB313	3716.57641	18.036	0.064	3716.57914	-1.816	0.507	96.891	96.412	I
2003 UB313	3718.58219	19.554	0.060	3718.58475	-0.299	0.516	96.891	96.441	B
2003 UB313	3718.58564	18.791	0.045	3718.58820	-1.062	0.516	96.891	96.442	V
2003 UB313	3718.58836	18.794	0.049	3718.59092	-1.059	0.516	96.891	96.442	V
2003 UB313	3718.59114	18.051	0.032	3718.59370	-1.802	0.516	96.891	96.442	I
2003 UB313	3720.57853	19.496	0.045	3720.58091	-0.357	0.525	96.891	96.471	B
2003 UB313	3720.58198	18.841	0.039	3720.58436	-1.012	0.525	96.891	96.471	V
2003 UB313	3720.58470	18.823	0.040	3720.58708	-1.030	0.525	96.891	96.471	V
2003 UB313	3720.58748	17.975	0.027	3720.58986	-1.878	0.525	96.891	96.472	I
2003 UB313	3722.57932	19.540	0.029	3722.58153	-0.314	0.533	96.890	96.502	B
2003 UB313	3722.58276	18.864	0.027	3722.58497	-0.990	0.533	96.890	96.502	V
2003 UB313	3722.58548	18.840	0.031	3722.58769	-1.014	0.533	96.890	96.502	V
2003 UB313	3722.58826	18.113	0.033	3722.59047	-1.741	0.533	96.890	96.502	I
2003 UB313	3724.55837	19.533	0.214	3724.56040	-0.322	0.541	96.890	96.533	B
2003 UB313	3724.56182	18.823	0.240	3724.56385	-1.032	0.541	96.890	96.533	V
2003 UB313	3724.56454	18.807	0.243	3724.56657	-1.048	0.541	96.890	96.533	V
2003 UB313	3724.56733	18.081	0.291	3724.56936	-1.774	0.541	96.890	96.533	I

2003 UB313	3726.54889	19.521	0.023	3726.55074	-0.334	0.548	96.890	96.564	B
2003 UB313	3726.55234	18.772	0.180	3726.55419	-1.083	0.548	96.890	96.564	V
2003 UB313	3726.55506	18.810	0.186	3726.55691	-1.045	0.548	96.890	96.564	V
2003 UB313	3726.55785	18.059	0.220	3726.55970	-1.796	0.548	96.890	96.564	I
2003 UB313	3728.55294	19.487	0.020	3728.55460	-0.369	0.554	96.889	96.596	B
2003 UB313	3728.55638	18.806	0.019	3728.55804	-1.050	0.554	96.889	96.596	V
2003 UB313	3728.55910	18.804	0.021	3728.56076	-1.052	0.554	96.889	96.596	V
2003 UB313	3728.56189	18.012	0.025	3728.56355	-1.844	0.554	96.889	96.596	I
2003 UB313	3746.52683	19.346	0.105	3746.52678	-0.517	0.581	96.887	96.893	B
2003 UB313	3746.53028	18.879	0.070	3746.53023	-0.984	0.581	96.887	96.893	V
2003 UB313	3746.53300	18.769	0.057	3746.53295	-1.094	0.581	96.887	96.893	V
2003 UB313	3746.53579	18.070	0.051	3746.53574	-1.793	0.581	96.887	96.893	I
2003 UB313	3748.52496	19.515	0.226	3748.52471	-0.349	0.581	96.887	96.926	B
2003 UB313	3748.52841	18.610	0.077	3748.52816	-1.254	0.581	96.887	96.926	V
2003 UB313	3748.53391	17.961	0.057	3748.53366	-1.903	0.581	96.887	96.927	I
2003 UB313	3750.53462	18.814	0.064	3750.53418	-1.050	0.580	96.886	96.960	V
2003 UB313	3750.53733	18.894	0.055	3750.53689	-0.970	0.580	96.886	96.960	V
2003 UB313	3752.52881	18.755	0.081	3752.52818	-1.110	0.578	96.886	96.993	V
2003 UB313	3752.53153	18.794	0.060	3752.53090	-1.071	0.578	96.886	96.993	V
2003 UB313	3752.53431	18.034	0.049	3752.53368	-1.831	0.578	96.886	96.993	I
2003 UB313	3754.52600	18.790	0.138	3754.52518	-1.076	0.576	96.886	97.027	V
2003 UB313	3754.52872	18.939	0.107	3754.52790	-0.927	0.576	96.886	97.027	V
2003 UB313	3754.53150	17.997	0.083	3754.53068	-1.869	0.576	96.886	97.027	I
2003 UB313	3756.52653	19.534	0.173	3756.52551	-0.332	0.573	96.886	97.060	B
2003 UB313	3756.52998	18.928	0.063	3756.52896	-0.938	0.573	96.886	97.060	V
2003 UB313	3756.53269	18.763	0.043	3756.53167	-1.103	0.573	96.886	97.060	V
2003 UB313	3756.53548	18.038	0.041	3756.53446	-1.828	0.573	96.886	97.060	I
2003 UB313	3758.52490	19.587	0.135	3758.52370	-0.280	0.569	96.885	97.093	B
2003 UB313	3758.52835	18.703	0.052	3758.52715	-1.164	0.569	96.885	97.093	V
2003 UB313	3758.53107	18.885	0.050	3758.52986	-0.982	0.569	96.885	97.093	V
2003 UB313	3758.53386	18.037	0.046	3758.53266	-1.830	0.569	96.885	97.093	I
2003 UB313	3760.52732	19.375	0.101	3760.52593	-0.493	0.565	96.885	97.125	B
2003 UB313	3760.53078	18.845	0.048	3760.52939	-1.023	0.565	96.885	97.125	V
2003 UB313	3760.53349	18.763	0.034	3760.53210	-1.105	0.565	96.885	97.125	V
2003 UB313	3760.53628	18.013	0.035	3760.53489	-1.855	0.565	96.885	97.125	I
2003 UB313	3762.52369	18.931	0.086	3762.52211	-0.938	0.560	96.885	97.157	V
2003 UB313	3762.52641	18.793	0.055	3762.52483	-1.076	0.560	96.885	97.158	V
2003 UB313	3762.53071	18.146	0.056	3762.52913	-1.723	0.560	96.885	97.158	I
				#					
2005 FY9	3465.66844	18.144	0.013	3465.66844	1.101	0.691	51.008	50.221	B
2005 FY9	3465.67148	17.293	0.015	3465.67148	0.250	0.691	51.008	50.221	V
2005 FY9	3465.67417	16.802	0.013	3465.67417	-0.241	0.691	51.008	50.221	R
2005 FY9	3465.67552	16.458	0.014	3465.67552	-0.585	0.691	51.008	50.221	I
2005 FY9	3465.67859	18.158	0.011	3465.67859	1.115	0.691	51.008	50.221	B
2005 FY9	3465.68162	17.265	0.016	3465.68162	0.222	0.691	51.008	50.221	V
2005 FY9	3465.68432	16.738	0.012	3465.68432	-0.305	0.691	51.008	50.221	R
2005 FY9	3465.68566	16.449	0.014	3465.68566	-0.594	0.691	51.008	50.221	I
2005 FY9	3466.67503	18.163	0.015	3466.67500	1.120	0.701	51.008	50.227	B
2005 FY9	3466.67807	17.296	0.020	3466.67804	0.253	0.701	51.008	50.227	V
2005 FY9	3466.68077	16.813	0.012	3466.68074	-0.230	0.701	51.008	50.227	R

2005 FY9	3466.68212	16.510	0.017	3466.68209	-0.533	0.701	51.008	50.227	I
2005 FY9	3466.68520	18.141	0.019	3466.68517	1.098	0.701	51.008	50.227	B
2005 FY9	3466.68823	17.357	0.017	3466.68820	0.314	0.701	51.008	50.227	V
2005 FY9	3466.69093	16.866	0.013	3466.69090	-0.177	0.701	51.008	50.227	R
2005 FY9	3466.69228	16.475	0.016	3466.69225	-0.568	0.701	51.008	50.227	I
2005 FY9	3467.68781	18.103	0.014	3467.68774	1.060	0.711	51.008	50.233	B
2005 FY9	3467.69084	17.258	0.021	3467.69077	0.215	0.711	51.008	50.233	V
2005 FY9	3467.69353	16.788	0.011	3467.69346	-0.255	0.711	51.008	50.233	R
2005 FY9	3467.69488	16.359	0.018	3467.69481	-0.684	0.711	51.008	50.233	I
2005 FY9	3467.69796	18.076	0.013	3467.69789	1.033	0.711	51.008	50.233	B
2005 FY9	3467.70101	17.259	0.018	3467.70094	0.216	0.711	51.008	50.233	V
2005 FY9	3467.70370	16.802	0.011	3467.70363	-0.241	0.711	51.008	50.233	R
2005 FY9	3467.70505	16.442	0.022	3467.70498	-0.601	0.711	51.008	50.233	I
2005 FY9	3489.58981	18.123	0.030	3489.58860	1.071	0.926	51.008	50.430	B
2005 FY9	3489.59285	17.254	0.022	3489.59164	0.202	0.926	51.008	50.430	V
2005 FY9	3489.59488	16.479	0.019	3489.59367	-0.573	0.926	51.008	50.430	I
2005 FY9	3489.59684	16.482	0.017	3489.59563	-0.570	0.926	51.008	50.430	I
2005 FY9	3490.60990	18.072	0.011	3490.60863	1.020	0.936	51.008	50.441	B
2005 FY9	3490.61295	17.264	0.012	3490.61168	0.212	0.936	51.008	50.441	V
2005 FY9	3490.61499	16.446	0.013	3490.61372	-0.606	0.936	51.008	50.441	I
2005 FY9	3490.61695	16.451	0.012	3490.61568	-0.601	0.936	51.008	50.441	I
2005 FY9	3491.61327	18.085	0.011	3491.61193	1.032	0.944	51.008	50.452	B
2005 FY9	3491.61632	17.237	0.014	3491.61498	0.184	0.944	51.008	50.452	V
2005 FY9	3491.61835	16.485	0.020	3491.61701	-0.568	0.944	51.008	50.452	I
2005 FY9	3491.62032	16.459	0.018	3491.61898	-0.594	0.944	51.008	50.452	I
2005 FY9	3508.55447	18.217	0.031	3508.55190	1.155	1.069	51.009	50.667	B
2005 FY9	3508.55753	17.123	0.037	3508.55496	0.061	1.069	51.009	50.667	V
2005 FY9	3508.55956	16.452	0.055	3508.55699	-0.610	1.069	51.009	50.667	I
2005 FY9	3508.56153	16.438	0.054	3508.55896	-0.624	1.069	51.009	50.667	I
2005 FY9	3509.55564	18.130	0.049	3509.55299	1.068	1.075	51.009	50.680	B
2005 FY9	3509.55870	17.301	0.029	3509.55605	0.239	1.075	51.009	50.680	V
2005 FY9	3509.56073	16.450	0.025	3509.55808	-0.612	1.075	51.009	50.680	I
2005 FY9	3509.56270	16.511	0.044	3509.56005	-0.551	1.075	51.009	50.680	I
2005 FY9	3511.56645	18.098	0.023	3511.56364	1.034	1.085	51.009	50.708	B
2005 FY9	3511.56949	17.225	0.025	3511.56668	0.161	1.085	51.009	50.708	V
2005 FY9	3511.57153	16.425	0.025	3511.56872	-0.639	1.085	51.009	50.708	I
2005 FY9	3511.57349	16.398	0.028	3511.57068	-0.666	1.085	51.009	50.708	I
2005 FY9	3512.52967	18.116	0.026	3512.52678	1.052	1.090	51.009	50.721	B
2005 FY9	3512.53272	17.298	0.021	3512.52983	0.234	1.090	51.009	50.721	V
2005 FY9	3512.53474	16.486	0.017	3512.53185	-0.578	1.090	51.009	50.721	I
2005 FY9	3512.53671	16.538	0.020	3512.53382	-0.526	1.090	51.009	50.722	I
2005 FY9	3515.51660	18.138	0.038	3515.51347	1.072	1.103	51.009	50.763	B
2005 FY9	3515.51966	17.233	0.026	3515.51653	0.167	1.103	51.009	50.763	V
2005 FY9	3515.52169	16.492	0.024	3515.51856	-0.574	1.103	51.009	50.763	I
2005 FY9	3515.52365	16.484	0.027	3515.52052	-0.582	1.103	51.009	50.763	I
2005 FY9	3517.53260	18.109	0.016	3517.52930	1.042	1.111	51.009	50.792	B
2005 FY9	3517.53563	17.292	0.024	3517.53233	0.225	1.111	51.009	50.792	V
2005 FY9	3517.53766	16.451	0.032	3517.53436	-0.616	1.111	51.009	50.793	I
2005 FY9	3517.53963	16.497	0.025	3517.53633	-0.570	1.111	51.009	50.793	I
2005 FY9	3520.52747	18.153	0.011	3520.52392	1.084	1.121	51.009	50.835	B

2005 FY9	3520.53050	17.303	0.013	3520.52695	0.234	1.121	51.009	50.835	V
2005 FY9	3520.53253	16.482	0.015	3520.52898	-0.587	1.121	51.009	50.835	I
2005 FY9	3520.53450	16.483	0.015	3520.53095	-0.586	1.121	51.009	50.835	I
2005 FY9	3521.51534	18.116	0.012	3521.51171	1.046	1.124	51.009	50.849	B
2005 FY9	3521.51840	17.284	0.013	3521.51477	0.214	1.124	51.009	50.849	V
2005 FY9	3521.52043	16.471	0.019	3521.51680	-0.599	1.124	51.009	50.849	I
2005 FY9	3521.52239	16.479	0.015	3521.51876	-0.591	1.124	51.009	50.849	I
2005 FY9	3522.49780	18.097	0.030	3522.49409	1.027	1.127	51.009	50.864	B
2005 FY9	3522.50084	17.295	0.020	3522.49713	0.225	1.127	51.009	50.864	V
2005 FY9	3522.50287	16.496	0.016	3522.49916	-0.574	1.127	51.009	50.864	I
2005 FY9	3522.50483	16.501	0.028	3522.50112	-0.569	1.127	51.009	50.864	I
2005 FY9	3523.50681	18.067	0.032	3523.50301	0.996	1.129	51.009	50.879	B
2005 FY9	3523.50986	17.234	0.029	3523.50606	0.163	1.129	51.009	50.879	V
2005 FY9	3523.51189	16.473	0.020	3523.50809	-0.598	1.129	51.009	50.879	I
2005 FY9	3523.51386	16.478	0.015	3523.51006	-0.593	1.129	51.009	50.879	I
2005 FY9	3524.50054	18.023	0.617	3524.49666	0.951	1.131	51.009	50.893	B
2005 FY9	3524.50360	17.412	0.331	3524.49972	0.340	1.131	51.009	50.893	V
2005 FY9	3524.50565	16.301	0.214	3524.50177	-0.771	1.131	51.009	50.893	I
2005 FY9	3524.50761	16.379	0.240	3524.50373	-0.693	1.131	51.009	50.893	I
2005 FY9	3525.53698	17.172	0.447	3525.53301	0.100	1.133	51.009	50.909	V
2005 FY9	3525.53901	16.334	0.296	3525.53504	-0.738	1.133	51.009	50.909	I
2005 FY9	3525.54098	16.336	0.289	3525.53701	-0.736	1.133	51.009	50.909	I
2005 FY9	3526.50802	18.094	0.581	3526.50397	1.021	1.134	51.009	50.923	B
2005 FY9	3526.51108	17.405	0.524	3526.50703	0.332	1.134	51.009	50.923	V
2005 FY9	3526.51311	16.354	0.267	3526.50906	-0.719	1.134	51.009	50.923	I
2005 FY9	3527.50132	18.088	0.572	3527.49719	1.015	1.136	51.009	50.937	B
2005 FY9	3527.50436	17.320	0.421	3527.50023	0.247	1.136	51.009	50.937	V
2005 FY9	3527.50639	16.324	0.309	3527.50225	-0.749	1.136	51.009	50.937	I
2005 FY9	3527.50836	16.432	0.304	3527.50422	-0.641	1.136	51.009	50.937	I
2005 FY9	3528.51698	18.120	0.583	3528.51276	1.046	1.137	51.009	50.952	B
2005 FY9	3528.52003	17.327	0.429	3528.51581	0.253	1.137	51.009	50.952	V
2005 FY9	3528.52206	16.394	0.267	3528.51784	-0.680	1.137	51.009	50.952	I
2005 FY9	3542.47099	18.255	0.024	3542.46558	1.172	1.126	51.009	51.158	B
2005 FY9	3542.47404	17.410	0.019	3542.46863	0.327	1.126	51.009	51.158	V
2005 FY9	3542.47607	16.665	0.017	3542.47066	-0.418	1.126	51.009	51.158	I
2005 FY9	3542.47804	16.612	0.015	3542.47263	-0.471	1.126	51.009	51.158	I
2005 FY9	3543.46910	18.062	0.070	3543.46360	0.979	1.124	51.009	51.173	B
2005 FY9	3543.47213	17.446	0.082	3543.46663	0.363	1.124	51.009	51.173	V
2005 FY9	3543.47416	16.606	0.079	3543.46866	-0.477	1.124	51.009	51.173	I
2005 FY9	3543.47612	16.598	0.105	3543.47062	-0.485	1.124	51.009	51.173	I
2005 FY9	3544.45362	18.181	0.040	3544.44805	1.097	1.121	51.009	51.186	B
2005 FY9	3545.47094	18.140	0.045	3545.46528	1.055	1.118	51.009	51.202	B
2005 FY9	3545.47398	17.428	0.047	3545.46832	0.343	1.118	51.009	51.202	V
2005 FY9	3545.47601	16.564	0.044	3545.47035	-0.521	1.118	51.009	51.202	I
2005 FY9	3545.47798	16.464	0.057	3545.47232	-0.621	1.118	51.009	51.202	I
2005 FY9	3547.46816	18.212	0.013	3547.46234	1.126	1.111	51.009	51.230	B
2005 FY9	3547.47120	17.385	0.018	3547.46538	0.299	1.111	51.009	51.230	V
2005 FY9	3547.47323	16.599	0.025	3547.46741	-0.487	1.111	51.009	51.230	I
2005 FY9	3547.47323	16.599	0.025	3547.46741	-0.487	1.111	51.009	51.230	I
2005 FY9	3547.47738	16.618	0.022	3547.47156	-0.468	1.111	51.009	51.230	I

2005 FY9	3774.82241	16.363	0.055	3774.82173	-0.760	0.746	51.922	51.196	I
2005 FY9	3776.82497	16.494	0.021	3776.82438	-0.628	0.726	51.922	51.180	I
2005 FY9	3776.82706	17.316	0.013	3776.82647	0.194	0.726	51.922	51.180	V
2005 FY9	3778.80455	18.021	0.042	3778.80405	0.899	0.707	51.923	51.165	B
2005 FY9	3778.80767	16.485	0.017	3778.80717	-0.637	0.707	51.923	51.165	I
2005 FY9	3778.80976	17.289	0.024	3778.80926	0.167	0.707	51.923	51.165	V
2005 FY9	3785.82382	18.024	0.018	3785.82358	0.904	0.643	51.924	51.120	B
2005 FY9	3785.82694	16.451	0.015	3785.82670	-0.669	0.643	51.924	51.120	I
2005 FY9	3785.82903	17.267	0.022	3785.82879	0.147	0.643	51.924	51.120	V
2005 FY9	3787.80048	18.036	0.011	3787.80030	0.917	0.627	51.924	51.110	B
2005 FY9	3787.80361	16.471	0.013	3787.80343	-0.648	0.627	51.924	51.110	I
2005 FY9	3787.80570	17.222	0.018	3787.80552	0.103	0.627	51.924	51.110	V
2005 FY9	3789.79225	18.022	0.013	3789.79212	0.903	0.611	51.925	51.100	B
2005 FY9	3789.79536	16.451	0.015	3789.79523	-0.668	0.611	51.925	51.100	I
2005 FY9	3789.79745	17.236	0.017	3789.79732	0.117	0.611	51.925	51.100	V
2005 FY9	3791.78812	18.036	0.011	3791.78804	0.917	0.597	51.925	51.092	B
2005 FY9	3791.79124	16.456	0.015	3791.79116	-0.663	0.597	51.925	51.092	I
2005 FY9	3791.79334	17.234	0.012	3791.79326	0.115	0.597	51.925	51.092	V
2005 FY9	3793.78960	18.175	0.013	3793.78957	1.057	0.584	51.925	51.084	B
2005 FY9	3793.79272	16.487	0.021	3793.79269	-0.631	0.584	51.925	51.084	I
2005 FY9	3793.79481	17.324	0.025	3793.79478	0.206	0.584	51.925	51.084	V
2005 FY9	3798.76558	18.026	0.024	3798.76563	0.908	0.558	51.926	51.070	B
2005 FY9	3798.76870	16.376	0.019	3798.76875	-0.742	0.558	51.926	51.070	I
2005 FY9	3798.77079	17.194	0.016	3798.77084	0.076	0.558	51.926	51.070	V
2005 FY9	3800.77695	18.046	0.011	3800.77702	0.928	0.550	51.926	51.066	B
2005 FY9	3800.78007	16.438	0.011	3800.78014	-0.680	0.550	51.926	51.066	I
2005 FY9	3800.78216	17.225	0.011	3800.78223	0.107	0.550	51.926	51.066	V
2005 FY9	3802.75348	16.372	0.062	3802.75357	-0.745	0.545	51.927	51.063	I
2005 FY9	3802.75557	17.192	0.038	3802.75566	0.075	0.545	51.927	51.063	V
2005 FY9	3804.77045	18.058	0.029	3804.77055	0.941	0.542	51.927	51.061	B
2005 FY9	3804.77357	16.437	0.070	3804.77367	-0.680	0.542	51.927	51.061	I
2005 FY9	3804.77566	17.249	0.049	3804.77576	0.132	0.542	51.927	51.061	V
2005 FY9	3813.70416	18.031	0.026	3813.70423	0.913	0.552	51.929	51.066	B
2005 FY9	3813.70728	16.436	0.016	3813.70735	-0.682	0.552	51.929	51.066	I
2005 FY9	3813.70937	17.232	0.020	3813.70944	0.114	0.552	51.929	51.066	V
2005 FY9	3815.70726	18.080	0.013	3815.70731	0.962	0.560	51.929	51.070	B
2005 FY9	3815.71037	16.410	0.013	3815.71042	-0.708	0.560	51.929	51.070	I
2005 FY9	3815.71246	17.258	0.016	3815.71251	0.140	0.560	51.929	51.070	V
2005 FY9	3817.67021	18.089	0.010	3817.67023	0.971	0.569	51.929	51.075	B
2005 FY9	3817.67332	16.425	0.018	3817.67334	-0.693	0.569	51.929	51.075	I
2005 FY9	3817.67541	17.276	0.013	3817.67543	0.158	0.569	51.929	51.075	V
2005 FY9	3821.66415	18.085	0.014	3821.66409	0.966	0.594	51.930	51.088	B
2005 FY9	3821.66727	16.400	0.011	3821.66721	-0.719	0.594	51.930	51.088	I
2005 FY9	3821.66936	17.201	0.013	3821.66930	0.082	0.594	51.930	51.088	V
2005 FY9	3823.70059	18.101	0.014	3823.70049	0.982	0.608	51.930	51.096	B
2005 FY9	3823.70371	16.398	0.030	3823.70361	-0.721	0.608	51.930	51.096	I
2005 FY9	3823.70371	16.398	0.030	3823.70361	-0.721	0.608	51.930	51.096	I
2005 FY9	3823.70581	17.284	0.023	3823.70571	0.165	0.608	51.930	51.096	V
2005 FY9	3828.68445	17.933	0.013	3828.68421	0.813	0.648	51.931	51.121	B
2005 FY9	3828.68966	17.240	0.015	3828.68941	0.120	0.648	51.931	51.121	V

2005 FY9	3831.61703	18.074	0.015	3831.61669	0.953	0.675	51.932	51.138	B
2005 FY9	3831.62015	16.414	0.017	3831.61981	-0.707	0.675	51.932	51.138	I
2005 FY9	3831.62224	17.238	0.014	3831.62190	0.117	0.675	51.932	51.138	V
2005 FY9	3833.62948	18.054	0.024	3833.62906	0.933	0.693	51.932	51.151	B
2005 FY9	3833.63259	16.443	0.019	3833.63217	-0.678	0.693	51.932	51.151	I
2005 FY9	3833.63468	17.201	0.017	3833.63426	0.080	0.693	51.932	51.151	V
2005 FY9	3837.63168	18.006	0.038	3837.63109	0.883	0.732	51.933	51.180	B
2005 FY9	3837.63933	17.975	0.056	3837.63874	0.852	0.732	51.933	51.180	B
2005 FY9	3837.64244	16.342	0.024	3837.64185	-0.781	0.732	51.933	51.180	I
2005 FY9	3837.64453	17.235	0.029	3837.64394	0.112	0.732	51.933	51.180	V
2005 FY9	3840.63420	17.990	0.048	3840.63348	0.866	0.762	51.933	51.204	B
2005 FY9	3840.63732	16.419	0.024	3840.63660	-0.705	0.762	51.933	51.204	I
2005 FY9	3840.63941	17.091	0.067	3840.63869	-0.033	0.762	51.933	51.204	V
2005 FY9	3841.63142	17.914	0.037	3841.63065	0.790	0.772	51.933	51.212	B
2005 FY9	3841.63454	16.395	0.042	3841.63377	-0.729	0.772	51.933	51.212	I
2005 FY9	3841.63663	17.213	0.029	3841.63586	0.089	0.772	51.933	51.212	V
2005 FY9	3844.63795	18.000	0.027	3844.63703	0.875	0.801	51.934	51.239	B
2005 FY9	3844.64107	16.376	0.067	3844.64015	-0.749	0.801	51.934	51.239	I
2005 FY9	3844.64315	17.311	0.015	3844.64223	0.186	0.802	51.934	51.239	V
2005 FY9	3846.61797	17.936	0.037	3846.61694	0.810	0.821	51.934	51.257	B
2005 FY9	3846.62108	16.258	0.067	3846.62005	-0.868	0.821	51.934	51.257	I
2005 FY9	3846.62316	17.323	0.015	3846.62213	0.197	0.821	51.934	51.257	V
2005 FY9	3847.61538	18.104	0.018	3847.61429	0.978	0.831	51.934	51.267	B
2005 FY9	3847.61851	16.498	0.025	3847.61742	-0.628	0.831	51.934	51.267	I
2005 FY9	3847.62060	17.250	0.017	3847.61951	0.124	0.831	51.934	51.267	V
2005 FY9	3848.60758	18.085	0.015	3848.60644	0.958	0.840	51.934	51.276	B
2005 FY9	3848.61069	16.497	0.023	3848.60955	-0.630	0.840	51.934	51.276	I
2005 FY9	3848.61277	17.302	0.017	3848.61163	0.175	0.840	51.934	51.276	V
2005 FY9	3848.61479	17.233	0.022	3848.61365	0.106	0.841	51.934	51.276	V
2005 FY9	3774.82241	16.363	0.055	3774.82173	-0.760	0.746	51.922	51.196	I
2005 FY9	3776.82497	16.494	0.021	3776.82438	-0.628	0.726	51.922	51.180	I
				#					
(90377) Sedna	2969.82338	20.701	0.085	2969.82338	1.201	0.208	89.586	88.656	R
(90377) Sedna	2970.63344	20.571	0.068	2970.63342	1.071	0.215	89.585	88.659	R
(90377) Sedna	2971.53123	20.537	0.071	2971.53119	1.037	0.222	89.584	88.663	R
(90377) Sedna	2971.53123	20.537	0.071	2971.53119	1.037	0.222	89.584	88.663	R
(90377) Sedna	2976.60031	21.427	0.196	2976.60012	1.927	0.266	89.580	88.689	V
(90377) Sedna	2976.60620	20.659	0.107	2976.60601	1.159	0.267	89.580	88.689	R
(90377) Sedna	2976.61180	19.838	0.091	2976.61161	0.338	0.267	89.580	88.689	I
(90377) Sedna	2977.52379	20.436	0.127	2977.52357	0.935	0.275	89.579	88.694	R
(90377) Sedna	2977.55591	20.499	0.086	2977.55569	0.998	0.275	89.579	88.695	R
(90377) Sedna	2977.59738	20.689	0.084	2977.59716	1.188	0.275	89.579	88.695	R
(90377) Sedna	2977.76378	20.507	0.111	2977.76355	1.006	0.277	89.579	88.696	R
(90377) Sedna	2978.60546	20.528	0.237	2978.60520	1.027	0.284	89.578	88.701	R
(90377) Sedna	2978.60851	19.675	0.186	2978.60825	0.174	0.284	89.578	88.701	I
(90377) Sedna	2979.59920	19.810	0.289	2979.59890	0.309	0.293	89.577	88.708	I
(90377) Sedna	2980.61946	20.351	0.204	2980.61912	0.850	0.302	89.576	88.715	R
(90377) Sedna	2983.60151	21.300	0.284	2983.60105	1.799	0.328	89.573	88.736	V
(90377) Sedna	2983.73237	20.443	0.177	2983.73190	0.942	0.330	89.573	88.737	R
(90377) Sedna	2983.73542	20.010	0.200	2983.73495	0.509	0.330	89.573	88.737	I

(90377) Sedna	2984.53058	20.540	0.071	2984.53008	1.038	0.336	89.572	88.744	R
(90377) Sedna	2984.56577	20.649	0.053	2984.56526	1.147	0.337	89.572	88.744	R
(90377) Sedna	2984.60805	20.668	0.081	2984.60754	1.166	0.337	89.572	88.744	R
(90377) Sedna	2984.64972	20.688	0.094	2984.64921	1.186	0.338	89.572	88.744	R
(90377) Sedna	2984.68244	20.589	0.074	2984.68193	1.087	0.338	89.572	88.745	R
(90377) Sedna	2985.52615	20.483	0.143	2985.52560	0.981	0.345	89.571	88.752	R
(90377) Sedna	2985.57714	20.523	0.043	2985.57659	1.021	0.346	89.571	88.752	R
(90377) Sedna	2985.62181	20.668	0.076	2985.62125	1.166	0.346	89.571	88.752	R
(90377) Sedna	2985.66398	20.475	0.087	2985.66342	0.973	0.346	89.571	88.753	R
(90377) Sedna	2985.70870	20.656	0.077	2985.70814	1.154	0.347	89.571	88.753	R
(90377) Sedna	2986.58615	22.480	0.072	2986.58555	2.978	0.354	89.570	88.760	B
(90377) Sedna	2986.59321	21.410	0.100	2986.59261	1.908	0.354	89.570	88.760	V
(90377) Sedna	2986.59611	21.542	0.114	2986.59551	2.040	0.354	89.570	88.760	V
(90377) Sedna	2986.59910	20.610	0.065	2986.59850	1.108	0.354	89.570	88.760	R
(90377) Sedna	2986.60215	19.989	0.080	2986.60155	0.487	0.354	89.570	88.761	I
(90377) Sedna	2986.70132	22.499	0.244	2986.70071	2.997	0.355	89.570	88.761	B
(90377) Sedna	2986.70838	21.118	0.174	2986.70777	1.616	0.355	89.570	88.761	V
(90377) Sedna	2986.71427	20.769	0.140	2986.71366	1.267	0.355	89.570	88.761	R
(90377) Sedna	2986.71731	20.040	0.129	2986.71670	0.538	0.355	89.570	88.761	I
(90377) Sedna	2987.52317	20.456	0.186	2987.52252	0.954	0.362	89.570	88.768	R
(90377) Sedna	2987.60764	20.610	0.039	2987.60699	1.108	0.363	89.570	88.769	R
(90377) Sedna	2987.64978	20.591	0.041	2987.64913	1.089	0.363	89.570	88.770	R
(90377) Sedna	2987.68946	20.554	0.050	2987.68880	1.052	0.364	89.569	88.770	R
(90377) Sedna	2988.62048	20.544	0.036	2988.61978	1.042	0.372	89.569	88.778	R
(90377) Sedna	2988.66305	20.654	0.048	2988.66234	1.152	0.372	89.569	88.778	R
(90377) Sedna	2988.70606	20.645	0.059	2988.70535	1.143	0.372	89.569	88.779	R
(90377) Sedna	2989.56952	22.573	0.082	2989.56877	3.071	0.380	89.568	88.787	B
(90377) Sedna	2989.57657	21.389	0.100	2989.57582	1.887	0.380	89.568	88.787	V
(90377) Sedna	2989.57947	21.301	0.098	2989.57872	1.799	0.380	89.568	88.787	V
(90377) Sedna	2989.58246	20.664	0.070	2989.58171	1.161	0.380	89.568	88.787	R
(90377) Sedna	2989.58551	19.824	0.079	2989.58476	0.321	0.380	89.568	88.787	I
(90377) Sedna	2989.70041	22.574	0.113	2989.69965	3.071	0.381	89.568	88.788	B
(90377) Sedna	2989.70747	21.450	0.156	2989.70671	1.947	0.381	89.568	88.788	V
(90377) Sedna	2989.71036	21.378	0.184	2989.70960	1.875	0.381	89.568	88.788	V
(90377) Sedna	2989.71335	20.541	0.088	2989.71259	1.038	0.381	89.568	88.788	R
(90377) Sedna	2989.71640	20.133	0.123	2989.71564	0.630	0.381	89.568	88.788	I
(90377) Sedna	2990.56183	20.546	0.050	2990.56102	1.043	0.388	89.567	88.796	R
(90377) Sedna	2990.60846	20.492	0.051	2990.60765	0.989	0.388	89.567	88.796	R
(90377) Sedna	2990.65617	20.532	0.046	2990.65536	1.029	0.389	89.567	88.797	R
(90377) Sedna	2990.69417	20.551	0.055	2990.69336	1.048	0.389	89.567	88.797	R
(90377) Sedna	2991.57789	20.529	0.051	2991.57703	1.026	0.396	89.566	88.806	R
(90377) Sedna	2991.62048	20.616	0.050	2991.61961	1.113	0.397	89.566	88.806	R
(90377) Sedna	2991.66439	20.746	0.056	2991.66352	1.243	0.397	89.566	88.806	R
(90377) Sedna	2991.71414	20.667	0.062	2991.71327	1.164	0.397	89.566	88.807	R
(90377) Sedna	2992.66844	20.651	0.042	2992.66752	1.148	0.405	89.565	88.816	R
(90377) Sedna	2993.62540	22.567	0.098	2993.62442	3.064	0.413	89.564	88.826	B
(90377) Sedna	2993.63245	21.566	0.135	2993.63147	2.063	0.413	89.564	88.826	V
(90377) Sedna	2993.63535	21.339	0.116	2993.63437	1.836	0.413	89.564	88.826	V
(90377) Sedna	2993.63834	20.462	0.106	2993.63736	0.959	0.413	89.564	88.826	R
(90377) Sedna	2993.64139	19.900	0.082	2993.64041	0.397	0.413	89.564	88.826	I

(90377) Sedna	2993.68600	22.697	0.122	2993.68502	3.194	0.413	89.564	88.827	B
(90377) Sedna	2993.69307	21.291	0.115	2993.69209	1.788	0.414	89.564	88.827	V
(90377) Sedna	2993.69897	20.679	0.132	2993.69799	1.176	0.414	89.564	88.827	R
(90377) Sedna	2993.70202	19.931	0.100	2993.70104	0.428	0.414	89.564	88.827	I
(90377) Sedna	2995.57781	20.696	0.051	2995.57671	1.192	0.428	89.562	88.846	R
(90377) Sedna	2995.65052	20.760	0.055	2995.64942	1.256	0.429	89.562	88.847	R
(90377) Sedna	2996.54618	20.712	0.065	2996.54502	1.208	0.436	89.561	88.857	R
(90377) Sedna	2996.59052	20.639	0.056	2996.58936	1.135	0.436	89.561	88.857	R
(90377) Sedna	2996.64130	20.638	0.048	2996.64014	1.134	0.437	89.561	88.858	R
(90377) Sedna	2999.68836	22.380	0.110	2999.68700	2.875	0.460	89.558	88.892	B
(90377) Sedna	2999.69542	21.328	0.130	2999.69406	1.823	0.460	89.558	88.892	V
(90377) Sedna	2999.69832	21.353	0.135	2999.69696	1.848	0.460	89.558	88.892	V
(90377) Sedna	2999.70131	20.749	0.093	2999.69995	1.244	0.460	89.558	88.892	R
(90377) Sedna	2999.70436	19.889	0.095	2999.70300	0.384	0.460	89.558	88.892	I
(90377) Sedna	3000.67063	20.533	0.157	3000.66920	1.028	0.467	89.558	88.903	R
(90377) Sedna	3001.68258	20.634	0.051	3001.68109	1.129	0.474	89.557	88.915	R
(90377) Sedna	3002.67101	20.726	0.077	3002.66945	1.220	0.481	89.556	88.927	R
(90377) Sedna	3003.54110	20.677	0.066	3003.53948	1.171	0.487	89.555	88.937	R
(90377) Sedna	3003.59603	20.706	0.052	3003.59440	1.200	0.487	89.555	88.938	R
(90377) Sedna	3003.65036	20.611	0.050	3003.64873	1.105	0.488	89.555	88.939	R
(90377) Sedna	3003.67955	20.722	0.056	3003.67792	1.216	0.488	89.555	88.939	R
(90377) Sedna	3004.62275	20.708	0.075	3004.62105	1.202	0.494	89.554	88.951	R
(90377) Sedna	3004.65813	20.851	0.093	3004.65643	1.345	0.495	89.554	88.951	R
(90377) Sedna	3004.69149	20.626	0.097	3004.68978	1.120	0.495	89.554	88.952	R
(90377) Sedna	3009.66099	20.357	0.116	3009.65891	0.849	0.526	89.549	89.016	R
(90377) Sedna	3009.66099	20.392	0.120	3009.65891	0.884	0.526	89.549	89.016	R
(90377) Sedna	3012.58123	20.397	0.252	3012.57892	0.888	0.543	89.547	89.055	R
(90377) Sedna	3012.58123	20.585	0.254	3012.57892	1.076	0.543	89.547	89.055	R
(90377) Sedna	3012.61774	20.347	0.201	3012.61543	0.838	0.543	89.547	89.056	R
(90377) Sedna	3012.61774	20.529	0.216	3012.61543	1.020	0.543	89.547	89.056	R
(90377) Sedna	3012.64552	20.748	0.276	3012.64321	1.239	0.543	89.547	89.056	R
(90377) Sedna	3012.64552	20.879	0.280	3012.64321	1.370	0.543	89.547	89.056	R
(90377) Sedna	3015.56250	20.490	0.046	3015.55995	0.980	0.559	89.544	89.097	R
(90377) Sedna	3015.56250	20.548	0.117	3015.55995	1.038	0.559	89.544	89.097	R
(90377) Sedna	3015.60340	20.456	0.062	3015.60085	0.946	0.559	89.544	89.098	R
(90377) Sedna	3015.60340	20.519	0.126	3015.60085	1.009	0.559	89.544	89.098	R
(90377) Sedna	3015.63788	20.427	0.068	3015.63533	0.917	0.559	89.544	89.098	R
(90377) Sedna	3015.63788	20.482	0.127	3015.63533	0.972	0.559	89.544	89.098	R
(90377) Sedna	3018.54179	20.537	0.062	3018.53899	1.027	0.573	89.541	89.140	R
(90377) Sedna	3018.54179	20.592	0.120	3018.53899	1.082	0.573	89.541	89.140	R
(90377) Sedna	3018.58509	20.582	0.050	3018.58229	1.072	0.573	89.541	89.141	R
(90377) Sedna	3018.58509	20.644	0.120	3018.58229	1.134	0.573	89.541	89.141	R
(90377) Sedna	3018.61993	20.511	0.044	3018.61713	1.000	0.573	89.541	89.141	R
(90377) Sedna	3018.61993	20.567	0.126	3018.61713	1.056	0.573	89.541	89.141	R
(90377) Sedna	3021.55724	20.540	0.070	3021.55419	1.028	0.586	89.538	89.185	R
(90377) Sedna	3021.55724	20.657	0.075	3021.55419	1.145	0.586	89.538	89.185	R
(90377) Sedna	3021.59351	20.604	0.094	3021.59045	1.092	0.586	89.538	89.185	R
(90377) Sedna	3021.59351	20.722	0.093	3021.59045	1.210	0.586	89.538	89.185	R
(90377) Sedna	3021.64757	20.684	0.113	3021.64451	1.172	0.586	89.538	89.186	R
(90377) Sedna	3021.64757	20.805	0.111	3021.64451	1.293	0.586	89.538	89.186	R

(90377) Sedna	3023.54314	20.505	0.120	3023.53991	0.993	0.593	89.537	89.215	R
(90377) Sedna	3023.54314	20.505	0.120	3023.53991	0.993	0.593	89.537	89.215	R
(90377) Sedna	3023.59375	20.563	0.114	3023.59052	1.051	0.594	89.537	89.216	R
(90377) Sedna	3025.52923	20.380	0.155	3025.52583	0.867	0.600	89.535	89.245	R
(90377) Sedna	3025.58859	20.577	0.117	3025.58518	1.064	0.600	89.535	89.246	R
(90377) Sedna	3026.52960	20.572	0.153	3026.52611	1.059	0.604	89.534	89.261	R
(90377) Sedna	3026.55707	20.558	0.123	3026.55358	1.045	0.604	89.534	89.261	R
(90377) Sedna	3026.60160	20.666	0.053	3026.59810	1.153	0.604	89.534	89.262	R
(90377) Sedna	3027.59692	20.579	0.107	3027.59333	1.065	0.607	89.533	89.277	R
(90377) Sedna	3027.61992	20.592	0.120	3027.61633	1.078	0.607	89.533	89.278	R
(90377) Sedna	3029.61150	20.484	0.104	3029.60773	0.970	0.612	89.531	89.309	R
(90377) Sedna	3032.56053	20.630	0.052	3032.55649	1.115	0.619	89.528	89.355	R
(90377) Sedna	3032.58137	20.579	0.053	3032.57733	1.064	0.619	89.528	89.356	R
(90377) Sedna	3033.55789	20.621	0.087	3033.55376	1.105	0.621	89.528	89.371	R
(90377) Sedna	3033.57315	20.533	0.072	3033.56902	1.017	0.621	89.527	89.371	R
(90377) Sedna	3040.53464	20.768	0.116	3040.52986	1.250	0.630	89.521	89.483	R
(90377) Sedna	3040.53464	20.777	0.116	3040.52986	1.259	0.630	89.521	89.483	R
(90377) Sedna	3041.53090	20.688	0.121	3041.52603	1.169	0.630	89.520	89.499	R
(90377) Sedna	3041.53090	20.710	0.121	3041.52603	1.191	0.630	89.520	89.499	R
(90377) Sedna	3043.54005	20.760	0.092	3043.53499	1.241	0.630	89.518	89.531	R
(90377) Sedna	3047.53037	20.703	0.069	3047.52494	1.182	0.629	89.515	89.596	R
(90377) Sedna	3051.53284	20.572	0.118	3051.52704	1.050	0.625	89.511	89.660	R
(90377) Sedna	3054.52011	20.636	0.148	3054.51404	1.113	0.619	89.508	89.707	R
(90377) Sedna	3058.52355	20.641	0.087	3058.51712	1.116	0.610	89.505	89.770	R
(90377) Sedna	3060.52117	20.589	0.120	3060.51456	1.063	0.604	89.503	89.800	R
(90377) Sedna	3184.90517	20.636	0.084	3184.89712	1.107	0.491	89.389	90.050	R
(90377) Sedna	3190.88051	20.498	0.171	3190.87294	0.971	0.529	89.384	89.968	R
(90377) Sedna	3190.88051	20.498	0.171	3190.87294	0.971	0.529	89.384	89.968	R
(90377) Sedna	3192.90844	20.342	0.106	3192.90103	0.816	0.542	89.382	89.938	R
(90377) Sedna	3194.88242	20.657	0.127	3194.87518	1.132	0.553	89.380	89.909	R
(90377) Sedna	3202.84872	20.736	0.126	3202.84219	1.214	0.592	89.373	89.786	R
(90377) Sedna	3202.85703	20.909	0.103	3202.85050	1.387	0.592	89.373	89.786	R
(90377) Sedna	3204.84973	20.762	0.115	3204.84339	1.241	0.601	89.371	89.754	R
(90377) Sedna	3210.88164	20.682	0.099	3210.87587	1.163	0.622	89.366	89.655	R
(90377) Sedna	3212.90671	20.784	0.092	3212.90114	1.266	0.628	89.364	89.621	R
(90377) Sedna	3217.93400	20.368	0.139	3217.92892	0.852	0.640	89.359	89.535	R
(90377) Sedna	3218.85009	20.701	0.205	3218.84511	1.186	0.642	89.359	89.519	R
(90377) Sedna	3224.87923	20.871	0.163	3224.87485	1.358	0.649	89.353	89.415	R
(90377) Sedna	3224.91227	20.642	0.119	3224.90789	1.129	0.649	89.353	89.414	R
(90377) Sedna	3229.85973	20.610	0.055	3229.85585	1.100	0.651	89.349	89.327	R
(90377) Sedna	3230.79406	20.661	0.056	3230.79028	1.151	0.650	89.348	89.311	R
(90377) Sedna	3230.83936	20.830	0.061	3230.83558	1.320	0.650	89.348	89.310	R
(90377) Sedna	3231.84900	20.749	0.073	3231.84532	1.240	0.650	89.347	89.293	R
(90377) Sedna	3231.88446	20.696	0.073	3231.88079	1.187	0.650	89.347	89.292	R
(90377) Sedna	3232.79646	20.733	0.177	3232.79288	1.224	0.649	89.346	89.276	R
(90377) Sedna	3238.81246	20.669	0.074	3238.80948	1.163	0.642	89.340	89.172	R
(90377) Sedna	3238.85410	20.578	0.064	3238.85113	1.072	0.642	89.340	89.171	R
(90377) Sedna	3239.85190	20.707	0.057	3239.84903	1.201	0.640	89.339	89.154	R
(90377) Sedna	3239.89609	20.650	0.055	3239.89322	1.144	0.640	89.339	89.153	R
(90377) Sedna	3240.79675	20.651	0.064	3240.79397	1.146	0.638	89.339	89.137	R

(90377) Sedna	3240.84081	20.625	0.071	3240.83804	1.120	0.638	89.339	89.137	R
(90377) Sedna	3241.91180	20.659	0.054	3241.90913	1.154	0.636	89.338	89.118	R
(90377) Sedna	3242.79678	20.526	0.067	3242.79420	1.021	0.633	89.337	89.103	R
(90377) Sedna	3242.79678	20.601	0.067	3242.79420	1.096	0.633	89.337	89.103	R
(90377) Sedna	3243.79670	20.562	0.113	3243.79422	1.058	0.631	89.336	89.086	R
(90377) Sedna	3245.83226	20.471	0.098	3245.82998	0.968	0.625	89.334	89.052	R
(90377) Sedna	3246.77475	20.645	0.178	3246.77256	1.142	0.622	89.333	89.036	R
(90377) Sedna	3247.78812	20.745	0.235	3247.78602	1.243	0.619	89.332	89.019	R
(90377) Sedna	3248.78905	20.603	0.127	3248.78705	1.101	0.616	89.331	89.002	R
(90377) Sedna	3250.76009	20.293	0.126	3250.75828	0.792	0.609	89.330	88.970	R
(90377) Sedna	3250.79460	20.437	0.115	3250.79279	0.936	0.608	89.329	88.969	R
(90377) Sedna	3251.75349	20.812	0.242	3251.75177	1.311	0.605	89.329	88.954	R
(90377) Sedna	3251.78968	20.550	0.237	3251.78796	1.049	0.605	89.329	88.953	R
(90377) Sedna	3254.81083	20.562	0.165	3254.80940	1.062	0.592	89.326	88.905	R
(90377) Sedna	3254.84264	20.576	0.091	3254.84121	1.077	0.592	89.326	88.904	R
(90377) Sedna	3256.83958	20.464	0.074	3256.83833	0.965	0.582	89.324	88.873	R
(90377) Sedna	3256.89472	20.417	0.062	3256.89348	0.918	0.582	89.324	88.872	R
(90377) Sedna	3257.83125	20.572	0.054	3257.83009	1.074	0.577	89.323	88.857	R
(90377) Sedna	3257.86913	20.729	0.066	3257.86797	1.231	0.577	89.323	88.857	R
(90377) Sedna	3258.82338	20.717	0.054	3258.82231	1.219	0.572	89.322	88.842	R
(90377) Sedna	3260.77321	20.642	0.074	3260.77231	1.145	0.562	89.320	88.812	R
(90377) Sedna	3260.82378	20.792	0.102	3260.82288	1.295	0.562	89.320	88.811	R
(90377) Sedna	3262.80625	20.581	0.055	3262.80553	1.085	0.551	89.319	88.782	R
(90377) Sedna	3263.72745	20.629	0.048	3263.72680	1.133	0.546	89.318	88.768	R
(90377) Sedna	3263.81599	20.577	0.040	3263.81535	1.081	0.545	89.318	88.767	R
(90377) Sedna	3264.78850	20.689	0.046	3264.78794	1.193	0.539	89.317	88.753	R
(90377) Sedna	3265.81899	20.669	0.054	3265.81852	1.174	0.533	89.316	88.738	R
(90377) Sedna	3265.84149	20.548	0.042	3265.84102	1.053	0.533	89.316	88.737	R
(90377) Sedna	3266.68737	20.446	0.079	3266.68697	0.951	0.528	89.315	88.725	R
(90377) Sedna	3266.78043	20.593	0.066	3266.78004	1.098	0.527	89.315	88.724	R
(90377) Sedna	3267.74472	20.585	0.133	3267.74441	1.091	0.521	89.314	88.710	R
(90377) Sedna	3267.82486	20.693	0.069	3267.82455	1.199	0.520	89.314	88.709	R
(90377) Sedna	3269.78697	20.680	0.061	3269.78682	1.186	0.507	89.312	88.682	R
(90377) Sedna	3269.84267	20.635	0.054	3269.84252	1.141	0.507	89.312	88.681	R
(90377) Sedna	3270.80504	20.728	0.049	3270.80497	1.235	0.500	89.311	88.668	R
(90377) Sedna	3270.86085	20.551	0.045	3270.86078	1.058	0.500	89.311	88.668	R
(90377) Sedna	3271.81547	20.691	0.048	3271.81548	1.198	0.493	89.310	88.655	R
(90377) Sedna	3271.85614	20.629	0.045	3271.85615	1.136	0.493	89.310	88.654	R
(90377) Sedna	3273.76586	20.566	0.080	3273.76601	1.074	0.480	89.309	88.630	R
(90377) Sedna	3273.81025	20.538	0.070	3273.81041	1.046	0.479	89.309	88.629	R
(90377) Sedna	3274.74131	20.515	0.090	3274.74154	1.023	0.472	89.308	88.617	R
(90377) Sedna	3274.78021	20.529	0.071	3274.78044	1.037	0.472	89.308	88.617	R
(90377) Sedna	3275.80602	20.764	0.143	3275.80632	1.272	0.465	89.307	88.604	R
(90377) Sedna	3276.82478	20.643	0.139	3276.82516	1.152	0.457	89.306	88.591	R
(90377) Sedna	3276.87390	20.929	0.181	3276.87428	1.438	0.457	89.306	88.591	R
(90377) Sedna	3281.81626	20.257	0.124	3281.81697	0.767	0.418	89.301	88.533	R
(90377) Sedna	3283.76780	20.765	0.059	3283.76864	1.276	0.402	89.300	88.512	R
(90377) Sedna	3283.81118	20.710	0.059	3283.81202	1.221	0.401	89.299	88.511	R
(90377) Sedna	3284.74106	20.594	0.090	3284.74196	1.105	0.393	89.299	88.501	R
(90377) Sedna	3284.79245	20.511	0.095	3284.79335	1.022	0.393	89.299	88.501	R

(90377) Sedna	3289.74238	20.660	0.055	3289.74356	1.172	0.351	89.294	88.452	R
(90377) Sedna	3301.71454	20.616	0.072	3301.71625	1.131	0.244	89.283	88.360	R
(90377) Sedna	3301.75366	20.700	0.087	3301.75537	1.215	0.244	89.283	88.360	R
(90377) Sedna	3306.67109	20.603	0.117	3306.67295	1.119	0.202	89.279	88.334	R
(90377) Sedna	3314.66362	20.626	0.071	3314.66564	1.142	0.148	89.271	88.306	R
(90377) Sedna	3316.65488	20.466	0.058	3316.65693	0.983	0.140	89.270	88.302	R
(90377) Sedna	3568.90100	20.619	0.073	3568.89641	1.113	0.596	89.042	89.452	R
(90377) Sedna	3570.86283	20.626	0.168	3570.85842	1.121	0.604	89.040	89.420	R
(90377) Sedna	3573.88737	20.491	0.142	3573.88324	0.987	0.615	89.037	89.371	R
(90377) Sedna	3574.86711	20.702	0.163	3574.86308	1.199	0.619	89.036	89.355	R
(90377) Sedna	3575.88729	20.784	0.120	3575.88335	1.281	0.622	89.035	89.338	R
(90377) Sedna	3577.85530	20.828	0.271	3577.85155	1.326	0.628	89.034	89.305	R
(90377) Sedna	3585.84578	20.676	0.072	3585.84282	1.177	0.646	89.027	89.168	R
(90377) Sedna	3587.86438	20.765	0.248	3587.86163	1.267	0.649	89.025	89.133	R
(90377) Sedna	3588.86680	20.774	0.118	3588.86415	1.277	0.650	89.024	89.116	R
(90377) Sedna	3590.91261	20.654	0.052	3590.91016	1.158	0.652	89.022	89.080	R
(90377) Sedna	3591.84338	20.625	0.064	3591.84103	1.129	0.652	89.021	89.064	R
(90377) Sedna	3592.89015	20.655	0.057	3592.88790	1.159	0.653	89.020	89.046	R
(90377) Sedna	3593.86575	20.714	0.064	3593.86360	1.219	0.653	89.019	89.028	R
(90377) Sedna	3596.85621	20.806	0.113	3596.85436	1.312	0.653	89.017	88.976	R
(90377) Sedna	3599.87073	20.407	0.219	3599.86919	0.915	0.651	89.014	88.924	R
(90377) Sedna	3600.83703	20.819	0.202	3600.83558	1.327	0.650	89.013	88.907	R
(90377) Sedna	3603.88727	20.747	0.102	3603.88613	1.256	0.645	89.010	88.854	R
(90377) Sedna	3608.84012	20.789	0.141	3608.83947	1.301	0.635	89.006	88.769	R
(90377) Sedna	3614.77460	20.702	0.063	3614.77452	1.216	0.617	89.001	88.669	R
(90377) Sedna	3617.79431	20.728	0.077	3617.79452	1.243	0.606	88.998	88.620	R
(90377) Sedna	3618.81696	20.688	0.066	3618.81727	1.204	0.602	88.997	88.603	R
(90377) Sedna	3619.81067	20.804	0.068	3619.81107	1.320	0.598	88.996	88.587	R
(90377) Sedna	3620.72723	20.626	0.063	3620.72771	1.143	0.593	88.995	88.573	R
(90377) Sedna	3621.74292	20.545	0.061	3621.74350	1.062	0.589	88.994	88.557	R
(90377) Sedna	3622.73681	20.426	0.108	3622.73748	0.943	0.584	88.993	88.541	R
(90377) Sedna	3624.73882	20.519	0.113	3624.73966	1.037	0.574	88.992	88.510	R
(90377) Sedna	3625.79728	20.644	0.055	3625.79822	1.163	0.568	88.991	88.494	R
(90377) Sedna	3626.78062	20.682	0.144	3626.78164	1.201	0.563	88.990	88.479	R
(90377) Sedna	3628.80457	20.688	0.133	3628.80577	1.208	0.552	88.988	88.449	R
(90377) Sedna	3629.77667	20.352	0.086	3629.77795	0.872	0.546	88.987	88.434	R
(90377) Sedna	3630.72142	20.729	0.228	3630.72278	1.250	0.540	88.986	88.421	R
(90377) Sedna	3631.78522	20.794	0.181	3631.78667	1.315	0.534	88.985	88.405	R
(90377) Sedna	3637.80071	20.515	0.152	3637.80264	1.038	0.494	88.980	88.323	R
(90377) Sedna	3639.73292	20.698	0.049	3639.73499	1.222	0.480	88.978	88.297	R
(90377) Sedna	3643.70706	20.689	0.078	3643.70942	1.214	0.450	88.975	88.248	R
(90377) Sedna	3651.69419	20.586	0.058	3651.69706	1.114	0.385	88.967	88.159	R
(90377) Sedna	3653.63663	20.594	0.105	3653.63961	1.122	0.369	88.966	88.140	R
(90377) Sedna	3655.71600	20.564	0.062	3655.71909	1.093	0.350	88.964	88.120	R
(90377) Sedna	3657.77176	20.691	0.077	3657.77496	1.220	0.332	88.962	88.102	R
(90377) Sedna	3663.66216	20.271	0.210	3663.66563	0.801	0.280	88.957	88.056	R
(90377) Sedna	3665.71765	20.531	0.101	3665.72120	1.062	0.261	88.955	88.042	R
(90377) Sedna	3668.65608	20.527	0.050	3668.65973	1.058	0.236	88.952	88.024	R
(90377) Sedna	3670.67790	20.594	0.060	3670.68162	1.126	0.218	88.950	88.013	R
(90377) Sedna	3673.61945	20.650	0.065	3673.62325	1.182	0.194	88.948	87.999	R

(90377) Sedna	3675.66726	20.529	0.050	3675.67110	1.061	0.179	88.946	87.991	R
(90377) Sedna	3680.69337	20.581	0.071	3680.69730	1.114	0.148	88.941	87.976	R
(90377) Sedna	3682.60290	20.549	0.101	3682.60685	1.082	0.140	88.940	87.972	R
(90377) Sedna	3687.61875	20.315	0.079	3687.62273	0.848	0.133	88.935	87.967	R
(90377) Sedna	3693.59375	20.489	0.056	3693.59770	1.022	0.154	88.930	87.972	R
(90377) Sedna	3696.60825	20.497	0.058	3696.61217	1.030	0.173	88.927	87.978	R
(90377) Sedna	3700.64297	20.506	0.041	3700.64682	1.039	0.203	88.923	87.990	R
(90377) Sedna	3704.61252	20.574	0.045	3704.61627	1.106	0.237	88.920	88.007	R
(90377) Sedna	3707.61356	20.646	0.065	3707.61722	1.178	0.263	88.917	88.023	R
(90377) Sedna	3709.57576	20.540	0.086	3709.57935	1.072	0.281	88.915	88.035	R
(90377) Sedna	3711.59056	20.550	0.059	3711.59407	1.082	0.299	88.914	88.048	R
(90377) Sedna	3713.56215	20.591	0.065	3713.56558	1.122	0.317	88.912	88.062	R
(90377) Sedna	3715.62144	20.726	0.105	3715.62478	1.257	0.335	88.910	88.077	R
(90377) Sedna	3719.61505	20.293	0.119	3719.61820	0.823	0.369	88.906	88.110	R
(90377) Sedna	3725.60977	20.567	0.046	3725.61259	1.096	0.419	88.901	88.168	R
(90377) Sedna	3747.55046	20.631	0.127	3747.55170	1.154	0.565	88.881	88.441	R
(90377) Sedna	3749.55022	20.609	0.152	3749.55130	1.131	0.575	88.880	88.470	R
(90377) Sedna	3750.58404	20.721	0.124	3750.58503	1.243	0.579	88.879	88.485	R
(90377) Sedna	3751.55175	20.593	0.066	3751.55266	1.114	0.584	88.878	88.499	R
(90377) Sedna	3753.53740	20.811	0.136	3753.53814	1.332	0.592	88.876	88.529	R
(90377) Sedna	3755.55826	20.591	0.065	3755.55882	1.111	0.599	88.874	88.559	R
(90377) Sedna	3757.55720	20.381	0.060	3757.55758	0.900	0.606	88.873	88.590	R
(90377) Sedna	3761.58782	20.679	0.052	3761.58784	1.197	0.618	88.869	88.653	R
(90377) Sedna	3764.58921	20.643	0.073	3764.58895	1.160	0.625	88.866	88.700	R
(90377) Sedna	3765.59003	20.765	0.078	3765.58968	1.281	0.627	88.865	88.716	R
				#					
(90482) Orcus	3057.66936	19.145	0.039	3057.66936	2.411	0.393	47.608	46.674	V
(90482) Orcus	3057.67071	19.182	0.039	3057.67071	2.448	0.393	47.608	46.674	V
(90482) Orcus	3057.67214	18.289	0.044	3057.67214	1.555	0.393	47.608	46.674	I
(90482) Orcus	3057.67349	18.288	0.044	3057.67349	1.554	0.393	47.608	46.674	I
(90482) Orcus	3061.62703	19.678	0.020	3061.62697	2.944	0.431	47.608	46.685	B
(90482) Orcus	3061.62981	19.018	0.041	3061.62975	2.284	0.431	47.608	46.685	V
(90482) Orcus	3061.63120	18.635	0.033	3061.63114	1.901	0.431	47.608	46.685	R
(90482) Orcus	3061.63264	18.243	0.046	3061.63258	1.509	0.431	47.608	46.685	I
(90482) Orcus	3061.67234	19.670	0.017	3061.67227	2.936	0.431	47.608	46.685	B
(90482) Orcus	3061.67513	19.020	0.039	3061.67506	2.286	0.431	47.608	46.685	V
(90482) Orcus	3061.67652	18.640	0.040	3061.67645	1.906	0.431	47.608	46.685	R
(90482) Orcus	3061.67796	18.259	0.046	3061.67789	1.525	0.431	47.608	46.685	I
(90482) Orcus	3065.70468	19.269	0.160	3065.70452	2.534	0.479	47.609	46.701	V
(90482) Orcus	3065.70603	19.080	0.104	3065.70587	2.345	0.479	47.609	46.701	V
(90482) Orcus	3065.70746	18.288	0.172	3065.70730	1.553	0.479	47.609	46.701	I
(90482) Orcus	3065.70881	18.154	0.133	3065.70865	1.419	0.479	47.609	46.701	I
(90482) Orcus	3069.60146	19.616	0.061	3069.60119	2.880	0.532	47.610	46.721	B
(90482) Orcus	3069.60425	19.066	0.102	3069.60398	2.330	0.532	47.610	46.721	V
(90482) Orcus	3069.60567	18.304	0.104	3069.60540	1.568	0.532	47.610	46.721	I
(90482) Orcus	3069.64677	19.713	0.066	3069.64649	2.977	0.532	47.610	46.722	B
(90482) Orcus	3069.65099	18.369	0.108	3069.65071	1.633	0.532	47.610	46.722	I
(90482) Orcus	3073.67904	19.750	0.043	3073.67862	3.013	0.590	47.610	46.747	B
(90482) Orcus	3073.68183	19.076	0.059	3073.68141	2.339	0.590	47.610	46.747	V
(90482) Orcus	3073.68325	18.342	0.053	3073.68283	1.605	0.590	47.610	46.747	I

(90482) Orcus	3073.72310	19.708	0.050	3073.72268	2.971	0.591	47.610	46.747	B
(90482) Orcus	3073.72588	19.160	0.085	3073.72546	2.423	0.591	47.610	46.747	V
(90482) Orcus	3073.72731	18.433	0.070	3073.72689	1.696	0.591	47.610	46.747	I
(90482) Orcus	3076.64779	19.786	0.024	3076.64725	3.048	0.634	47.611	46.768	B
(90482) Orcus	3076.65059	19.088	0.043	3076.65005	2.350	0.634	47.611	46.768	V
(90482) Orcus	3076.65202	18.397	0.047	3076.65148	1.659	0.634	47.611	46.768	I
(90482) Orcus	3076.70597	19.882	0.035	3076.70542	3.144	0.635	47.611	46.768	B
(90482) Orcus	3076.70875	19.316	0.062	3076.70820	2.578	0.635	47.611	46.768	V
(90482) Orcus	3076.71018	18.495	0.060	3076.70963	1.757	0.635	47.611	46.768	I
(90482) Orcus	3080.60463	19.770	0.017	3080.60390	3.030	0.693	47.612	46.800	B
(90482) Orcus	3080.60742	19.146	0.037	3080.60669	2.406	0.693	47.612	46.800	V
(90482) Orcus	3080.60885	18.506	0.046	3080.60812	1.766	0.693	47.612	46.800	I
(90482) Orcus	3080.64503	19.829	0.019	3080.64430	3.089	0.694	47.612	46.800	B
(90482) Orcus	3080.64782	19.186	0.042	3080.64709	2.446	0.694	47.612	46.800	V
(90482) Orcus	3080.64925	18.499	0.048	3080.64852	1.759	0.694	47.612	46.800	I
(90482) Orcus	3088.48572	19.689	0.064	3088.48456	2.946	0.808	47.613	46.874	B
(90482) Orcus	3088.48854	19.094	0.060	3088.48738	2.351	0.808	47.613	46.874	V
(90482) Orcus	3088.48996	18.337	0.067	3088.48880	1.594	0.808	47.613	46.874	I
(90482) Orcus	3088.52831	19.750	0.032	3088.52715	3.007	0.808	47.613	46.875	B
(90482) Orcus	3088.53110	19.174	0.037	3088.52994	2.431	0.808	47.613	46.875	V
(90482) Orcus	3088.53253	18.374	0.042	3088.53137	1.631	0.808	47.613	46.875	I
(90482) Orcus	3092.54502	19.768	0.022	3092.54361	3.023	0.864	47.613	46.918	B
(90482) Orcus	3092.54781	19.096	0.040	3092.54640	2.351	0.864	47.613	46.918	V
(90482) Orcus	3092.54923	18.436	0.049	3092.54782	1.691	0.864	47.613	46.918	I
(90482) Orcus	3092.59120	19.768	0.020	3092.58979	3.023	0.864	47.613	46.919	B
(90482) Orcus	3092.59399	19.161	0.040	3092.59258	2.416	0.864	47.613	46.919	V
(90482) Orcus	3092.59541	18.403	0.045	3092.59400	1.658	0.864	47.613	46.919	I
(90482) Orcus	3099.53128	19.779	0.141	3099.52939	3.030	0.953	47.615	47.001	B
(90482) Orcus	3099.53407	19.183	0.101	3099.53218	2.434	0.953	47.615	47.001	V
(90482) Orcus	3099.53549	18.121	0.113	3099.53360	1.372	0.953	47.615	47.001	I
(90482) Orcus	3103.63863	19.932	0.047	3103.63643	3.180	1.001	47.615	47.055	B
(90482) Orcus	3103.64142	19.270	0.073	3103.63922	2.518	1.001	47.615	47.055	V
(90482) Orcus	3103.64285	18.551	0.070	3103.64065	1.799	1.001	47.615	47.055	I
(90482) Orcus	3103.67271	19.923	0.059	3103.67051	3.171	1.001	47.615	47.055	B
(90482) Orcus	3103.67550	19.337	0.088	3103.67330	2.585	1.001	47.615	47.055	V
(90482) Orcus	3103.67693	18.543	0.082	3103.67473	1.791	1.001	47.615	47.055	I
(90482) Orcus	3107.57381	20.001	0.021	3107.57130	3.247	1.042	47.616	47.108	B
(90482) Orcus	3107.57661	19.334	0.042	3107.57410	2.580	1.042	47.616	47.108	V
(90482) Orcus	3107.57804	18.632	0.054	3107.57553	1.878	1.042	47.616	47.108	I
(90482) Orcus	3107.61660	19.981	0.020	3107.61409	3.227	1.043	47.616	47.109	B
(90482) Orcus	3107.61940	19.310	0.046	3107.61689	2.556	1.043	47.616	47.109	V
(90482) Orcus	3107.62083	18.521	0.057	3107.61832	1.767	1.043	47.616	47.109	I
(90482) Orcus	3111.50561	19.802	0.037	3111.50278	3.045	1.080	47.616	47.164	B
(90482) Orcus	3111.50834	19.197	0.049	3111.50551	2.440	1.080	47.616	47.164	V
(90482) Orcus	3111.50971	18.419	0.061	3111.50688	1.662	1.080	47.616	47.164	I
(90482) Orcus	3111.56506	19.851	0.037	3111.56222	3.094	1.080	47.616	47.165	B
(90482) Orcus	3111.56779	19.264	0.051	3111.56495	2.507	1.081	47.616	47.165	V
(90482) Orcus	3111.56916	18.451	0.062	3111.56632	1.694	1.081	47.616	47.165	I
(90482) Orcus	3121.52210	19.718	0.037	3121.51840	2.954	1.156	47.618	47.315	B
(90482) Orcus	3121.52620	18.424	0.128	3121.52250	1.660	1.156	47.618	47.315	I

(90482) Orcus	3121.57440	19.750	0.042	3121.57069	2.986	1.156	47.618	47.316	B
(90482) Orcus	3121.57713	19.124	0.106	3121.57342	2.360	1.156	47.618	47.316	V
(90482) Orcus	3121.57850	18.404	0.106	3121.57479	1.640	1.156	47.618	47.316	I
(90482) Orcus	3125.48453	19.736	0.043	3125.48047	2.969	1.178	47.619	47.377	B
(90482) Orcus	3125.48726	19.082	0.070	3125.48320	2.315	1.178	47.619	47.377	V
(90482) Orcus	3125.48864	18.292	0.071	3125.48458	1.525	1.178	47.619	47.377	I
(90482) Orcus	3125.53216	19.804	0.047	3125.52809	3.037	1.178	47.619	47.378	B
(90482) Orcus	3125.53490	19.191	0.079	3125.53083	2.424	1.178	47.619	47.378	V
(90482) Orcus	3125.53627	18.437	0.080	3125.53220	1.670	1.178	47.619	47.378	I
(90482) Orcus	3129.57127	19.755	0.064	3129.56683	2.985	1.195	47.619	47.443	B
(90482) Orcus	3129.57400	19.288	0.102	3129.56956	2.518	1.195	47.619	47.443	V
(90482) Orcus	3129.57537	18.420	0.069	3129.57093	1.650	1.195	47.619	47.443	I
(90482) Orcus	3129.61778	19.919	0.102	3129.61334	3.149	1.195	47.619	47.443	B
(90482) Orcus	3129.62051	19.292	0.151	3129.61607	2.522	1.195	47.619	47.443	V
(90482) Orcus	3129.62188	18.800	0.200	3129.61744	2.030	1.195	47.619	47.443	I
(90482) Orcus	3133.46242	19.852	0.025	3133.45762	3.079	1.207	47.620	47.505	B
(90482) Orcus	3133.46514	19.181	0.047	3133.46034	2.408	1.207	47.620	47.506	V
(90482) Orcus	3133.46653	18.493	0.063	3133.46173	1.720	1.207	47.620	47.506	I
(90482) Orcus	3133.50775	18.570	0.057	3133.50294	1.797	1.207	47.620	47.506	I
(90482) Orcus	3133.50775	19.197	0.040	3133.50294	2.424	1.207	47.620	47.506	V
(90482) Orcus	3133.50914	19.874	0.020	3133.50433	3.101	1.207	47.620	47.506	B
(90482) Orcus	3142.45300	19.772	0.043	3142.44735	2.993	1.215	47.621	47.652	B
(90482) Orcus	3142.45572	19.404	0.069	3142.45007	2.625	1.215	47.621	47.652	V
(90482) Orcus	3142.45710	18.503	0.071	3142.45145	1.724	1.215	47.621	47.652	I
(90482) Orcus	3142.48772	19.882	0.020	3142.48207	3.103	1.215	47.621	47.653	B
(90482) Orcus	3142.49046	19.188	0.040	3142.48481	2.409	1.215	47.621	47.653	V
(90482) Orcus	3142.49183	18.485	0.052	3142.48618	1.706	1.215	47.621	47.653	I
(90482) Orcus	3146.44584	19.765	0.269	3146.43981	2.983	1.211	47.622	47.717	B
(90482) Orcus	3146.44856	19.311	0.183	3146.44253	2.529	1.211	47.622	47.717	V
(90482) Orcus	3146.44992	18.733	0.224	3146.44389	1.951	1.211	47.622	47.717	I
(90482) Orcus	3146.48247	19.899	0.041	3146.47644	3.117	1.211	47.622	47.718	B
(90482) Orcus	3146.48519	19.306	0.066	3146.47916	2.524	1.211	47.622	47.718	V
(90482) Orcus	3146.48656	18.565	0.068	3146.48053	1.783	1.211	47.622	47.718	I
(90482) Orcus	3152.44815	20.002	0.084	3152.44156	3.215	1.195	47.623	47.814	B
(90482) Orcus	3152.45087	19.102	0.069	3152.44428	2.315	1.195	47.623	47.814	V
(90482) Orcus	3152.45223	18.496	0.074	3152.44564	1.709	1.195	47.623	47.814	I
(90482) Orcus	3152.49226	19.841	0.045	3152.48567	3.054	1.195	47.623	47.815	B
(90482) Orcus	3152.49499	19.196	0.092	3152.48840	2.409	1.195	47.623	47.815	V
(90482) Orcus	3152.49636	18.765	0.235	3152.48977	1.978	1.195	47.623	47.815	I
(90482) Orcus	3156.46892	19.655	0.047	3156.46197	2.865	1.178	47.624	47.878	B
(90482) Orcus	3156.47164	19.270	0.065	3156.46468	2.480	1.178	47.624	47.878	V
(90482) Orcus	3156.47301	18.448	0.066	3156.46605	1.658	1.178	47.624	47.878	I
(90482) Orcus	3156.51447	19.542	0.053	3156.50751	2.752	1.178	47.624	47.879	B
(90482) Orcus	3156.51720	19.259	0.080	3156.51024	2.469	1.178	47.624	47.879	V
(90482) Orcus	3156.51857	18.614	0.089	3156.51161	1.824	1.178	47.624	47.879	I
(90482) Orcus	3159.46065	19.242	0.080	3159.45343	2.450	1.163	47.624	47.925	V
(90482) Orcus	3159.46426	18.475	0.068	3159.45704	1.683	1.163	47.624	47.925	I
(90482) Orcus	3159.50952	19.386	0.124	3159.50229	2.594	1.162	47.624	47.926	V
(90482) Orcus	3159.51089	18.447	0.078	3159.50366	1.655	1.162	47.624	47.926	I
(90482) Orcus	3169.45449	19.466	0.055	3169.44640	2.667	1.092	47.626	48.075	B

(90482) Orcus	3169.45720	19.129	0.069	3169.44911	2.330	1.092	47.626	48.075	V
(90482) Orcus	3169.45858	18.564	0.128	3169.45049	1.765	1.092	47.626	48.075	I
(90482) Orcus	3169.50138	19.489	0.049	3169.49329	2.690	1.092	47.626	48.075	B
(90482) Orcus	3169.50411	19.066	0.063	3169.49602	2.267	1.092	47.626	48.075	V
(90482) Orcus	3169.50548	18.410	0.142	3169.49739	1.611	1.092	47.626	48.075	I
(90482) Orcus	3175.44653	19.862	0.116	3175.43795	3.059	1.038	47.627	48.159	B
(90482) Orcus	3175.44926	19.130	0.085	3175.44068	2.327	1.038	47.627	48.159	V
(90482) Orcus	3175.45063	18.864	0.245	3175.44205	2.061	1.038	47.627	48.159	I
(90482) Orcus	3175.47121	19.819	0.036	3175.46263	3.016	1.038	47.627	48.159	B
(90482) Orcus	3175.47393	19.214	0.052	3175.46535	2.411	1.038	47.627	48.159	V
(90482) Orcus	3175.47531	18.423	0.060	3175.46673	1.620	1.038	47.627	48.159	I
(90482) Orcus	3180.44673	19.801	0.104	3180.43777	2.995	0.986	47.627	48.225	B
(90482) Orcus	3180.44945	19.352	0.113	3180.44049	2.546	0.986	47.627	48.225	V
(90482) Orcus	3183.45657	19.932	0.057	3183.44739	3.125	0.952	47.628	48.262	B
(90482) Orcus	3183.45929	19.203	0.068	3183.45011	2.396	0.952	47.628	48.262	V
(90482) Orcus	3183.46066	18.461	0.080	3183.45148	1.654	0.952	47.628	48.263	I
(90482) Orcus	3189.45359	19.161	0.205	3189.44401	2.350	0.879	47.629	48.333	V
(90482) Orcus	3189.45496	18.520	0.188	3189.44538	1.709	0.879	47.629	48.333	I
(90482) Orcus	3193.45072	19.718	0.153	3193.44089	2.905	0.827	47.629	48.376	B
				#					
(50000) Quaoar	2696.85404	19.452	0.112	2696.85404	3.072	1.302	43.413	43.490	V
(50000) Quaoar	2696.85540	19.451	0.107	2696.85540	3.071	1.302	43.413	43.490	V
(50000) Quaoar	2696.85819	20.165	0.069	2696.85819	3.785	1.302	43.413	43.490	B
(50000) Quaoar	2696.86089	18.124	0.097	2696.86089	1.744	1.302	43.413	43.490	I
(50000) Quaoar	2698.85722	19.455	0.112	2698.85742	3.077	1.306	43.413	43.456	V
(50000) Quaoar	2698.85857	19.377	0.106	2698.85877	2.999	1.306	43.413	43.456	V
(50000) Quaoar	2698.86137	20.337	0.074	2698.86157	3.959	1.306	43.413	43.456	B
(50000) Quaoar	2698.86406	18.241	0.105	2698.86426	1.863	1.306	43.413	43.456	I
(50000) Quaoar	2700.84523	19.274	0.087	2700.84563	2.897	1.308	43.413	43.422	V
(50000) Quaoar	2700.84659	19.141	0.074	2700.84699	2.764	1.308	43.413	43.422	V
(50000) Quaoar	2700.84938	20.084	0.050	2700.84978	3.707	1.308	43.413	43.422	B
(50000) Quaoar	2700.85208	17.986	0.074	2700.85248	1.609	1.308	43.413	43.422	I
(50000) Quaoar	2704.84205	19.270	0.081	2704.84285	2.897	1.309	43.413	43.353	V
(50000) Quaoar	2704.84341	19.249	0.085	2704.84421	2.876	1.309	43.413	43.353	V
(50000) Quaoar	2704.84620	20.144	0.051	2704.84700	3.771	1.309	43.413	43.353	B
(50000) Quaoar	2704.84890	18.089	0.082	2704.84970	1.716	1.309	43.413	43.353	I
(50000) Quaoar	2706.85972	19.241	0.081	2706.86072	2.870	1.307	43.412	43.318	V
(50000) Quaoar	2706.86108	19.276	0.083	2706.86208	2.905	1.307	43.412	43.318	V
(50000) Quaoar	2706.86388	20.322	0.060	2706.86488	3.951	1.307	43.412	43.318	B
(50000) Quaoar	2706.86657	18.283	0.099	2706.86757	1.912	1.307	43.412	43.318	I
(50000) Quaoar	2708.81668	19.249	0.083	2708.81787	2.879	1.303	43.412	43.284	V
(50000) Quaoar	2708.81804	19.266	0.081	2708.81923	2.896	1.303	43.412	43.284	V
(50000) Quaoar	2708.82083	20.261	0.057	2708.82202	3.891	1.303	43.412	43.284	B
(50000) Quaoar	2708.82354	17.997	0.079	2708.82473	1.627	1.303	43.412	43.284	I
(50000) Quaoar	2710.82968	19.324	0.073	2710.83107	2.956	1.298	43.412	43.250	V
(50000) Quaoar	2710.83104	19.486	0.083	2710.83243	3.118	1.298	43.412	43.250	V
(50000) Quaoar	2710.83384	20.205	0.045	2710.83523	3.837	1.298	43.412	43.250	B
(50000) Quaoar	2714.87749	19.364	0.078	2714.87927	2.999	1.282	43.412	43.182	V
(50000) Quaoar	2714.87884	19.254	0.066	2714.88063	2.889	1.282	43.412	43.182	V
(50000) Quaoar	2714.88164	20.155	0.042	2714.88342	3.790	1.282	43.412	43.181	B

(50000) Quaoar	2714.88433	17.948	0.058	2714.88611	1.583	1.282	43.412	43.181	I
(50000) Quaoar	2716.86227	19.360	0.159	2716.86425	2.997	1.273	43.412	43.148	V
(50000) Quaoar	2716.86363	19.273	0.144	2716.86561	2.910	1.273	43.412	43.148	V
(50000) Quaoar	2716.86642	20.504	0.202	2716.86840	4.141	1.273	43.412	43.148	B
(50000) Quaoar	2716.86912	18.005	0.079	2716.87110	1.642	1.273	43.412	43.148	I
(50000) Quaoar	2718.88142	19.210	0.132	2718.88359	2.849	1.261	43.411	43.115	V
(50000) Quaoar	2718.88278	19.124	0.121	2718.88495	2.763	1.261	43.411	43.115	V
(50000) Quaoar	2718.88558	20.138	0.132	2718.88775	3.777	1.261	43.411	43.115	B
(50000) Quaoar	2718.88828	17.883	0.079	2718.89045	1.522	1.261	43.411	43.115	I
(50000) Quaoar	2722.84788	19.585	0.266	2722.85042	3.227	1.234	43.411	43.050	V
(50000) Quaoar	2722.85203	20.259	0.142	2722.85457	3.901	1.234	43.411	43.050	B
(50000) Quaoar	2722.85473	18.248	0.171	2722.85727	1.890	1.234	43.411	43.050	I
(50000) Quaoar	2724.89572	19.617	0.099	2724.89845	3.261	1.218	43.411	43.017	V
(50000) Quaoar	2724.89708	19.453	0.089	2724.89981	3.097	1.218	43.411	43.017	V
(50000) Quaoar	2724.89988	20.477	0.076	2724.90261	4.121	1.218	43.411	43.017	B
(50000) Quaoar	2724.90258	18.327	0.078	2724.90531	1.971	1.218	43.411	43.017	I
(50000) Quaoar	2728.88956	19.233	0.073	2728.89266	2.880	1.182	43.410	42.955	V
(50000) Quaoar	2728.89092	19.353	0.077	2728.89402	3.000	1.182	43.410	42.955	V
(50000) Quaoar	2728.89372	20.423	0.064	2728.89682	4.070	1.182	43.410	42.954	B
(50000) Quaoar	2728.89642	18.317	0.089	2728.89952	1.964	1.182	43.410	42.954	I
(50000) Quaoar	2730.83995	19.343	0.085	2730.84322	2.992	1.163	43.410	42.925	V
(50000) Quaoar	2730.84131	19.397	0.090	2730.84458	3.046	1.163	43.410	42.925	V
(50000) Quaoar	2730.84410	20.229	0.060	2730.84737	3.878	1.163	43.410	42.925	B
(50000) Quaoar	2730.84680	18.050	0.083	2730.85007	1.699	1.162	43.410	42.925	I
(50000) Quaoar	2732.81711	19.211	0.091	2732.82055	2.861	1.141	43.410	42.895	V
(50000) Quaoar	2732.81847	19.206	0.093	2732.82191	2.856	1.141	43.410	42.895	V
(50000) Quaoar	2732.82127	20.108	0.066	2732.82471	3.758	1.141	43.410	42.895	B
(50000) Quaoar	2732.82398	18.081	0.094	2732.82742	1.731	1.141	43.410	42.895	I
(50000) Quaoar	2736.82823	19.378	0.075	2736.83201	3.031	1.094	43.410	42.837	V
(50000) Quaoar	2736.82959	19.285	0.063	2736.83337	2.938	1.094	43.410	42.837	V
(50000) Quaoar	2736.83239	20.227	0.042	2736.83617	3.880	1.094	43.410	42.837	B
(50000) Quaoar	2736.83506	18.095	0.066	2736.83884	1.748	1.094	43.410	42.837	I
(50000) Quaoar	2738.81598	19.310	0.078	2738.81992	2.964	1.069	43.410	42.809	V
(50000) Quaoar	2738.81734	19.147	0.070	2738.82128	2.801	1.069	43.410	42.809	V
(50000) Quaoar	2738.82013	20.093	0.039	2738.82407	3.747	1.069	43.410	42.809	B
(50000) Quaoar	2738.82282	18.015	0.066	2738.82676	1.669	1.069	43.410	42.809	I
(50000) Quaoar	2740.81194	19.341	0.075	2740.81604	2.997	1.042	43.409	42.781	V
(50000) Quaoar	2740.81329	19.352	0.076	2740.81739	3.008	1.042	43.409	42.781	V
(50000) Quaoar	2740.81609	20.312	0.047	2740.82019	3.968	1.042	43.409	42.781	B
(50000) Quaoar	2740.81878	18.051	0.068	2740.82288	1.707	1.042	43.409	42.781	I
(50000) Quaoar	2742.84166	19.278	0.068	2742.84591	2.935	1.014	43.409	42.754	V
(50000) Quaoar	2742.84301	19.074	0.062	2742.84726	2.731	1.014	43.409	42.754	V
(50000) Quaoar	2742.84581	20.125	0.039	2742.85006	3.782	1.014	43.409	42.754	B
(50000) Quaoar	2742.84851	18.003	0.064	2742.85276	1.660	1.014	43.409	42.754	I
(50000) Quaoar	2744.78946	19.155	0.286	2744.79386	2.813	0.986	43.409	42.729	V
(50000) Quaoar	2744.79495	17.777	0.210	2744.79935	1.435	0.986	43.409	42.729	I
(50000) Quaoar	2750.83303	19.163	0.125	2750.83785	2.825	0.891	43.408	42.656	V
(50000) Quaoar	2750.83439	19.391	0.150	2750.83921	3.053	0.891	43.408	42.656	V
(50000) Quaoar	2750.83719	20.048	0.102	2750.84201	3.710	0.891	43.408	42.656	B
(50000) Quaoar	2750.83989	17.963	0.109	2750.84471	1.625	0.891	43.408	42.656	I

(50000) Quaoar	2752.81282	19.295	0.091	2752.81777	2.958	0.858	43.408	42.634	V
(50000) Quaoar	2752.81418	19.205	0.092	2752.81913	2.868	0.858	43.408	42.634	V
(50000) Quaoar	2752.81698	20.083	0.087	2752.82193	3.746	0.858	43.408	42.633	B
(50000) Quaoar	2752.81965	17.861	0.070	2752.82460	1.524	0.858	43.408	42.633	I
(50000) Quaoar	2754.75687	19.264	0.111	2754.76194	2.928	0.825	43.408	42.612	V
(50000) Quaoar	2754.75822	19.378	0.115	2754.76329	3.042	0.825	43.408	42.612	V
(50000) Quaoar	2754.76102	20.106	0.088	2754.76609	3.770	0.825	43.408	42.612	B
(50000) Quaoar	2754.76371	18.068	0.086	2754.76878	1.732	0.825	43.408	42.612	I
(50000) Quaoar	2756.83098	19.193	0.074	2756.83618	2.859	0.789	43.408	42.591	V
(50000) Quaoar	2756.83233	19.189	0.077	2756.83753	2.855	0.789	43.408	42.591	V
(50000) Quaoar	2756.83513	20.135	0.051	2756.84033	3.801	0.789	43.408	42.591	B
(50000) Quaoar	2756.83783	17.848	0.072	2756.84303	1.514	0.789	43.408	42.591	I
(50000) Quaoar	2758.83210	19.192	0.100	2758.83741	2.859	0.753	43.408	42.571	V
(50000) Quaoar	2758.83346	19.140	0.099	2758.83877	2.807	0.753	43.408	42.571	V
(50000) Quaoar	2758.83626	20.210	0.093	2758.84157	3.877	0.753	43.408	42.571	B
(50000) Quaoar	2758.83895	17.940	0.157	2758.84426	1.607	0.752	43.408	42.571	I
(50000) Quaoar	2760.79025	19.233	0.072	2760.79567	2.901	0.717	43.408	42.553	V
(50000) Quaoar	2760.79161	19.199	0.070	2760.79703	2.867	0.717	43.408	42.553	V
(50000) Quaoar	2760.79442	20.153	0.042	2760.79984	3.821	0.716	43.408	42.553	B
(50000) Quaoar	2760.79713	17.863	0.064	2760.80255	1.531	0.716	43.408	42.553	I
(50000) Quaoar	2764.68062	19.228	0.076	2764.68623	2.897	0.643	43.407	42.519	V
(50000) Quaoar	2764.68198	19.174	0.068	2764.68759	2.843	0.643	43.407	42.519	V
(50000) Quaoar	2764.68477	20.115	0.043	2764.69038	3.784	0.643	43.407	42.519	B
(50000) Quaoar	2764.68747	17.823	0.059	2764.69308	1.492	0.643	43.407	42.519	I
(50000) Quaoar	2770.81076	19.013	0.058	2770.81663	2.685	0.523	43.407	42.474	V
(50000) Quaoar	2770.81211	18.981	0.057	2770.81798	2.653	0.523	43.407	42.474	V
(50000) Quaoar	2770.81490	20.079	0.040	2770.82077	3.751	0.523	43.407	42.474	B
(50000) Quaoar	2770.81760	17.727	0.063	2770.82347	1.399	0.523	43.407	42.474	I
(50000) Quaoar	2773.71459	19.011	0.157	2773.72056	2.684	0.465	43.406	42.456	V
(50000) Quaoar	2773.71595	18.990	0.199	2773.72192	2.663	0.465	43.406	42.456	V
(50000) Quaoar	2773.71875	20.178	0.205	2773.72472	3.851	0.465	43.406	42.456	B
(50000) Quaoar	2773.72144	17.589	0.106	2773.72741	1.262	0.465	43.406	42.456	I
(50000) Quaoar	2775.59860	19.089	0.232	2775.60463	2.762	0.428	43.406	42.446	V
(50000) Quaoar	2775.60139	19.861	0.240	2775.60742	3.534	0.428	43.406	42.446	B
(50000) Quaoar	2775.60408	17.959	0.130	2775.61011	1.632	0.428	43.406	42.446	I
(50000) Quaoar	2782.66870	19.115	0.096	2782.67490	2.790	0.292	43.406	42.416	V
(50000) Quaoar	2782.67005	18.992	0.112	2782.67625	2.667	0.292	43.406	42.416	V
(50000) Quaoar	2782.67285	20.248	0.060	2782.67905	3.923	0.292	43.406	42.416	B
(50000) Quaoar	2782.67554	17.677	0.139	2782.68174	1.352	0.292	43.406	42.416	I
(50000) Quaoar	2786.76796	19.108	0.091	2786.77423	2.783	0.224	43.405	42.405	V
(50000) Quaoar	2786.76932	19.128	0.100	2786.77559	2.803	0.224	43.405	42.405	V
(50000) Quaoar	2786.77211	20.070	0.080	2786.77838	3.745	0.224	43.405	42.405	B
(50000) Quaoar	2786.77481	17.758	0.101	2786.78108	1.433	0.224	43.405	42.405	I
(50000) Quaoar	2788.62300	19.134	0.106	2788.62929	2.809	0.199	43.405	42.402	V
(50000) Quaoar	2788.62435	19.149	0.104	2788.63064	2.824	0.199	43.405	42.402	V
(50000) Quaoar	2788.62715	19.965	0.078	2788.63344	3.640	0.199	43.405	42.402	B
(50000) Quaoar	2788.62985	17.894	0.110	2788.63614	1.569	0.199	43.405	42.402	I
(50000) Quaoar	2790.58284	18.814	0.196	2790.58914	2.489	0.180	43.405	42.400	V
(50000) Quaoar	2790.58420	18.873	0.150	2790.59050	2.548	0.180	43.405	42.400	V
(50000) Quaoar	2790.58700	20.049	0.156	2790.59330	3.724	0.180	43.405	42.400	B

(50000) Quaoar	2790.58969	17.463	0.237	2790.59599	1.138	0.180	43.405	42.400	I
(50000) Quaoar	2792.65617	19.236	0.091	2792.66248	2.912	0.170	43.405	42.399	V
(50000) Quaoar	2792.65753	19.126	0.097	2792.66384	2.802	0.170	43.405	42.399	V
(50000) Quaoar	2792.66032	19.966	0.074	2792.66663	3.642	0.170	43.405	42.399	B
(50000) Quaoar	2792.66302	17.739	0.075	2792.66933	1.415	0.170	43.405	42.399	I
(50000) Quaoar	2794.68978	19.088	0.060	2794.69609	2.764	0.173	43.405	42.398	V
(50000) Quaoar	2794.69113	19.108	0.060	2794.69744	2.784	0.173	43.405	42.398	V
(50000) Quaoar	2794.69393	20.078	0.037	2794.70024	3.754	0.173	43.405	42.398	B
(50000) Quaoar	2794.69662	17.720	0.063	2794.70293	1.396	0.173	43.405	42.398	I
(50000) Quaoar	2811.57455	19.311	0.122	2811.58060	2.984	0.442	43.403	42.444	V
(50000) Quaoar	2811.57735	20.105	0.100	2811.58340	3.778	0.442	43.403	42.444	B
(50000) Quaoar	2811.58005	17.782	0.124	2811.58609	1.455	0.442	43.403	42.444	I
(50000) Quaoar	2813.49597	18.841	0.109	2813.50196	2.514	0.481	43.403	42.454	V
(50000) Quaoar	2813.49733	18.977	0.098	2813.50332	2.650	0.481	43.403	42.454	V
(50000) Quaoar	2813.50013	19.930	0.073	2813.50612	3.603	0.481	43.403	42.454	B
(50000) Quaoar	2813.50283	17.946	0.146	2813.50882	1.619	0.481	43.403	42.454	I
(50000) Quaoar	2818.74335	19.150	0.096	2818.74915	2.821	0.585	43.402	42.487	V
(50000) Quaoar	2818.74471	19.213	0.105	2818.75051	2.884	0.585	43.402	42.487	V
(50000) Quaoar	2818.74750	20.144	0.065	2818.75330	3.815	0.585	43.402	42.487	B
(50000) Quaoar	2818.75020	18.000	0.100	2818.75600	1.671	0.585	43.402	42.487	I
(50000) Quaoar	2820.53683	19.144	0.062	2820.54255	2.815	0.620	43.402	42.500	V
(50000) Quaoar	2820.53819	19.192	0.066	2820.54391	2.862	0.620	43.402	42.500	V
(50000) Quaoar	2820.54098	20.120	0.041	2820.54670	3.790	0.620	43.402	42.500	B
(50000) Quaoar	2820.54368	17.750	0.066	2820.54940	1.420	0.620	43.402	42.500	I
(50000) Quaoar	2830.65555	19.860	0.208	2830.66076	3.526	0.808	43.401	42.588	B
(50000) Quaoar	2830.65825	18.205	0.270	2830.66346	1.871	0.808	43.401	42.588	I
(50000) Quaoar	2832.63602	20.087	0.254	2832.64112	3.752	0.842	43.401	42.608	B
(50000) Quaoar	2832.63873	18.332	0.262	2832.64383	1.997	0.842	43.401	42.608	I
(50000) Quaoar	2834.51260	19.144	0.174	2834.51758	2.808	0.874	43.401	42.628	V
(50000) Quaoar	2834.51396	18.950	0.170	2834.51894	2.614	0.874	43.401	42.628	V
(50000) Quaoar	2834.51673	19.705	0.184	2834.52171	3.369	0.874	43.401	42.628	B
(50000) Quaoar	2834.51941	17.856	0.178	2834.52439	1.520	0.875	43.401	42.628	I
(50000) Quaoar	2837.57189	18.858	0.146	2837.57668	2.520	0.925	43.401	42.662	V
(50000) Quaoar	2837.57324	19.232	0.141	2837.57803	2.894	0.925	43.401	42.662	V
(50000) Quaoar	2837.57604	20.121	0.106	2837.58082	3.783	0.925	43.401	42.662	B
(50000) Quaoar	2837.57874	17.837	0.118	2837.58352	1.499	0.925	43.401	42.662	I
				#					
(28978) Ixion	2697.83640	20.279	0.189	2697.83640	3.949	1.322	42.951	42.948	V
(28978) Ixion	2697.83811	20.575	0.228	2697.83811	4.245	1.322	42.951	42.948	V
(28978) Ixion	2697.84165	21.172	0.133	2697.84165	4.842	1.322	42.951	42.948	B
(28978) Ixion	2697.84500	18.995	0.191	2697.84500	2.665	1.322	42.951	42.948	I
(28978) Ixion	2699.86742	20.424	0.167	2699.86763	4.096	1.322	42.950	42.912	V
(28978) Ixion	2699.86913	20.402	0.174	2699.86934	4.074	1.322	42.950	42.912	V
(28978) Ixion	2699.87267	21.359	0.128	2699.87288	5.031	1.322	42.950	42.912	B
(28978) Ixion	2699.87602	19.116	0.174	2699.87623	2.788	1.322	42.950	42.912	I
(28978) Ixion	2701.84370	20.399	0.180	2701.84411	4.073	1.321	42.949	42.876	V
(28978) Ixion	2701.84541	20.286	0.163	2701.84582	3.960	1.321	42.949	42.876	V
(28978) Ixion	2701.84895	21.400	0.150	2701.84936	5.074	1.321	42.949	42.876	B
(28978) Ixion	2701.85229	19.417	0.255	2701.85270	3.091	1.321	42.949	42.876	I
(28978) Ixion	2703.84414	20.214	0.237	2703.84476	3.890	1.318	42.948	42.841	V

(28978) Ixion	2703.84939	21.252	0.188	2703.85001	4.928	1.318	42.948	42.841	B
(28978) Ixion	2705.83823	20.146	0.137	2705.83905	3.824	1.314	42.947	42.805	V
(28978) Ixion	2705.83993	20.456	0.176	2705.84075	4.134	1.314	42.947	42.805	V
(28978) Ixion	2705.84347	21.396	0.131	2705.84429	5.074	1.314	42.947	42.805	B
(28978) Ixion	2705.84682	19.141	0.194	2705.84764	2.819	1.314	42.947	42.805	I
(28978) Ixion	2707.83091	20.523	0.168	2707.83194	4.203	1.308	42.946	42.770	V
(28978) Ixion	2707.83263	20.167	0.125	2707.83366	3.847	1.308	42.946	42.770	V
(28978) Ixion	2707.83617	21.357	0.104	2707.83720	5.037	1.308	42.946	42.770	B
(28978) Ixion	2707.83949	19.027	0.159	2707.84052	2.707	1.308	42.946	42.770	I
(28978) Ixion	2709.83532	20.288	0.135	2709.83655	3.970	1.300	42.945	42.735	V
(28978) Ixion	2709.83702	20.438	0.157	2709.83825	4.120	1.300	42.945	42.735	V
(28978) Ixion	2709.84056	21.326	0.116	2709.84179	5.008	1.300	42.945	42.735	B
(28978) Ixion	2709.84390	19.013	0.161	2709.84513	2.695	1.300	42.945	42.735	I
(28978) Ixion	2711.82148	20.204	0.130	2711.82291	3.887	1.291	42.943	42.700	V
(28978) Ixion	2711.82318	20.099	0.124	2711.82461	3.782	1.291	42.943	42.700	V
(28978) Ixion	2711.82671	21.347	0.104	2711.82814	5.030	1.291	42.943	42.700	B
(28978) Ixion	2711.83006	19.187	0.165	2711.83149	2.870	1.291	42.943	42.700	I
(28978) Ixion	2713.86698	20.694	0.272	2713.86862	4.379	1.280	42.942	42.665	V
(28978) Ixion	2713.86869	20.125	0.167	2713.87033	3.810	1.280	42.942	42.665	V
(28978) Ixion	2713.87224	21.434	0.139	2713.87388	5.119	1.280	42.942	42.665	B
(28978) Ixion	2713.87558	19.211	0.193	2713.87722	2.896	1.280	42.942	42.665	I
(28978) Ixion	2715.83636	20.250	0.275	2715.83819	3.937	1.268	42.941	42.631	V
(28978) Ixion	2715.84161	20.839	0.198	2715.84344	4.526	1.268	42.941	42.631	B
(28978) Ixion	2715.84496	19.082	0.187	2715.84679	2.769	1.268	42.941	42.631	I
(28978) Ixion	2717.88091	19.712	0.230	2717.88294	3.401	1.254	42.940	42.596	V
(28978) Ixion	2717.88950	19.186	0.217	2717.89153	2.875	1.254	42.940	42.596	I
(28978) Ixion	2723.83756	20.269	0.152	2723.84016	3.963	1.204	42.937	42.498	V
(28978) Ixion	2723.83926	20.294	0.166	2723.84186	3.988	1.204	42.937	42.498	V
(28978) Ixion	2723.84615	19.444	0.243	2723.84875	3.138	1.204	42.937	42.497	I
(28978) Ixion	2725.81368	20.311	0.132	2725.81647	4.007	1.184	42.936	42.466	V
(28978) Ixion	2725.81539	20.478	0.154	2725.81818	4.174	1.184	42.936	42.466	V
(28978) Ixion	2725.81893	21.298	0.100	2725.82172	4.994	1.184	42.936	42.466	B
(28978) Ixion	2725.82227	19.050	0.143	2725.82506	2.746	1.184	42.936	42.466	I
(28978) Ixion	2727.87282	20.381	0.120	2727.87579	4.078	1.163	42.934	42.433	V
(28978) Ixion	2727.87453	20.330	0.111	2727.87750	4.027	1.163	42.934	42.433	V
(28978) Ixion	2727.87807	21.199	0.077	2727.88104	4.896	1.163	42.934	42.433	B
(28978) Ixion	2727.88142	19.345	0.171	2727.88439	3.042	1.162	42.934	42.433	I
(28978) Ixion	2729.80578	20.156	0.118	2729.80893	3.855	1.141	42.933	42.403	V
(28978) Ixion	2729.80748	20.038	0.113	2729.81063	3.737	1.141	42.933	42.403	V
(28978) Ixion	2729.81103	21.259	0.091	2729.81418	4.958	1.141	42.933	42.403	B
(28978) Ixion	2729.81437	19.324	0.170	2729.81752	3.023	1.141	42.933	42.403	I
(28978) Ixion	2731.82834	21.288	0.083	2731.83166	4.989	1.116	42.932	42.373	B
(28978) Ixion	2731.83170	18.873	0.118	2731.83502	2.574	1.116	42.932	42.373	I
(28978) Ixion	2733.79557	20.271	0.243	2733.79906	3.973	1.091	42.931	42.343	V
(28978) Ixion	2733.79728	20.566	0.264	2733.80077	4.268	1.091	42.931	42.343	V
(28978) Ixion	2733.80083	21.180	0.111	2733.80432	4.882	1.091	42.931	42.343	B
(28978) Ixion	2733.80418	19.142	0.174	2733.80767	2.844	1.091	42.931	42.343	I
(28978) Ixion	2735.79350	20.129	0.120	2735.79716	3.833	1.065	42.930	42.314	V
(28978) Ixion	2735.79521	20.143	0.123	2735.79887	3.847	1.065	42.930	42.314	V
(28978) Ixion	2735.79875	21.177	0.083	2735.80241	4.881	1.065	42.930	42.314	B

(28978) Ixion	2735.80210	19.139	0.159	2735.80576	2.843	1.064	42.930	42.314	I
(28978) Ixion	2737.77074	20.109	0.117	2737.77456	3.814	1.037	42.929	42.286	V
(28978) Ixion	2737.77245	20.276	0.131	2737.77627	3.981	1.037	42.929	42.286	V
(28978) Ixion	2737.77599	21.203	0.081	2737.77981	4.908	1.037	42.929	42.286	B
(28978) Ixion	2737.77933	19.226	0.175	2737.78315	2.931	1.037	42.929	42.286	I
(28978) Ixion	2739.75482	20.164	0.148	2739.75880	3.871	1.008	42.928	42.259	V
(28978) Ixion	2739.75653	20.128	0.132	2739.76051	3.835	1.008	42.928	42.259	V
(28978) Ixion	2739.76007	21.124	0.095	2739.76405	4.831	1.008	42.928	42.259	B
(28978) Ixion	2739.76341	19.463	0.218	2739.76739	3.170	1.008	42.928	42.259	I
(28978) Ixion	2741.74739	20.307	0.156	2741.75152	4.015	0.977	42.927	42.232	V
(28978) Ixion	2741.74909	20.125	0.131	2741.75322	3.833	0.977	42.927	42.232	V
(28978) Ixion	2741.75264	21.260	0.121	2741.75677	4.968	0.977	42.926	42.232	B
(28978) Ixion	2741.75598	19.557	0.250	2741.76011	3.265	0.977	42.926	42.232	I
(28978) Ixion	2743.69320	20.117	0.223	2743.69748	3.827	0.947	42.925	42.207	V
(28978) Ixion	2743.70009	19.201	0.250	2743.70437	2.911	0.946	42.925	42.207	I
(28978) Ixion	2751.78090	20.380	0.209	2751.78574	4.095	0.807	42.921	42.111	V
(28978) Ixion	2751.78261	20.063	0.176	2751.78745	3.778	0.807	42.921	42.111	V
(28978) Ixion	2751.78615	20.737	0.180	2751.79099	4.452	0.807	42.921	42.111	B
(28978) Ixion	2751.78950	19.510	0.264	2751.79434	3.225	0.807	42.921	42.111	I
(28978) Ixion	2753.87469	20.083	0.231	2753.87966	3.799	0.768	42.920	42.088	V
(28978) Ixion	2753.87822	20.935	0.239	2753.88319	4.651	0.768	42.920	42.088	B
(28978) Ixion	2753.88157	18.960	0.206	2753.88654	2.676	0.768	42.920	42.088	I
(28978) Ixion	2755.74978	20.418	0.192	2755.75486	4.135	0.733	42.919	42.069	V
(28978) Ixion	2755.75149	20.155	0.160	2755.75657	3.872	0.733	42.919	42.069	V
(28978) Ixion	2755.75503	21.184	0.109	2755.76011	4.901	0.732	42.919	42.069	B
(28978) Ixion	2755.75837	19.130	0.206	2755.76345	2.847	0.732	42.919	42.069	I
(28978) Ixion	2757.76061	20.552	0.168	2757.76580	4.270	0.693	42.917	42.049	V
(28978) Ixion	2757.76232	20.519	0.165	2757.76751	4.237	0.693	42.917	42.049	V
(28978) Ixion	2757.76586	21.307	0.086	2757.77105	5.025	0.693	42.917	42.049	B
(28978) Ixion	2757.76921	19.290	0.182	2757.77440	3.008	0.693	42.917	42.049	I
(28978) Ixion	2759.82072	20.211	0.137	2759.82602	3.930	0.653	42.916	42.030	V
(28978) Ixion	2759.82243	20.149	0.128	2759.82773	3.868	0.652	42.916	42.030	V
(28978) Ixion	2759.82597	21.145	0.089	2759.83127	4.864	0.652	42.916	42.030	B
(28978) Ixion	2759.82930	19.252	0.191	2759.83460	2.971	0.652	42.916	42.030	I
(28978) Ixion	2761.76778	19.927	0.223	2761.77318	3.647	0.613	42.915	42.013	V
(28978) Ixion	2761.76949	20.035	0.243	2761.77489	3.755	0.613	42.915	42.013	V
(28978) Ixion	2761.77303	20.610	0.188	2761.77843	4.330	0.613	42.915	42.013	B
(28978) Ixion	2761.77638	18.716	0.228	2761.78178	2.436	0.613	42.915	42.013	I
(28978) Ixion	2763.68498	19.645	0.173	2763.69047	3.366	0.573	42.914	41.998	V
(28978) Ixion	2763.68669	19.766	0.181	2763.69218	3.487	0.573	42.914	41.998	V
(28978) Ixion	2763.69022	20.608	0.188	2763.69571	4.329	0.573	42.914	41.998	B
(28978) Ixion	2763.69357	18.795	0.209	2763.69906	2.516	0.573	42.914	41.998	I
(28978) Ixion	2765.75524	19.921	0.171	2765.76082	3.643	0.530	42.913	41.982	V
(28978) Ixion	2765.75695	19.817	0.186	2765.76253	3.539	0.530	42.913	41.982	V
(28978) Ixion	2765.76049	20.830	0.170	2765.76607	4.552	0.530	42.913	41.982	B
(28978) Ixion	2765.76383	18.972	0.219	2765.76941	2.694	0.530	42.913	41.982	I
(28978) Ixion	2771.62173	21.233	0.246	2771.62753	4.957	0.403	42.910	41.943	B
(28978) Ixion	2771.62507	19.181	0.254	2771.63087	2.905	0.403	42.910	41.943	I
(28978) Ixion	2777.61899	20.453	0.258	2777.62496	4.179	0.270	42.906	41.914	B
(28978) Ixion	2785.54434	20.243	0.180	2785.55045	3.970	0.091	42.902	41.891	V

(28978) Ixion	2785.54605	20.061	0.169	2785.55216	3.788	0.091	42.902	41.891	V
(28978) Ixion	2785.54959	21.234	0.146	2785.55570	4.961	0.091	42.902	41.891	B
(28978) Ixion	2785.55293	19.195	0.253	2785.55904	2.922	0.091	42.902	41.891	I
(28978) Ixion	2787.55372	20.146	0.141	2787.55984	3.873	0.050	42.900	41.888	V
(28978) Ixion	2787.55543	20.094	0.125	2787.56155	3.821	0.049	42.900	41.888	V
(28978) Ixion	2787.55897	20.906	0.083	2787.56509	4.633	0.049	42.900	41.888	B
(28978) Ixion	2787.56231	18.917	0.157	2787.56843	2.644	0.049	42.900	41.888	I
(28978) Ixion	2789.58974	19.978	0.122	2789.59587	3.705	0.030	42.899	41.886	V
(28978) Ixion	2789.59145	20.029	0.136	2789.59758	3.756	0.030	42.899	41.886	V
(28978) Ixion	2789.59499	21.015	0.089	2789.60112	4.742	0.030	42.899	41.886	B
(28978) Ixion	2789.59832	18.970	0.161	2789.60445	2.697	0.030	42.899	41.886	I
(28978) Ixion	2791.55201	20.213	0.146	2791.55815	3.940	0.059	42.898	41.885	V
(28978) Ixion	2791.55372	19.906	0.129	2791.55986	3.633	0.060	42.898	41.885	V
(28978) Ixion	2791.55726	21.038	0.108	2791.56340	4.765	0.060	42.898	41.885	B
(28978) Ixion	2791.56061	19.209	0.202	2791.56675	2.936	0.060	42.898	41.885	I
(28978) Ixion	2793.67518	20.044	0.146	2793.68131	3.772	0.105	42.897	41.886	V
(28978) Ixion	2793.67689	20.235	0.137	2793.68302	3.963	0.105	42.897	41.886	V
(28978) Ixion	2793.68043	21.083	0.089	2793.68656	4.811	0.105	42.897	41.886	B
(28978) Ixion	2793.68378	18.845	0.155	2793.68991	2.573	0.105	42.897	41.886	I
(28978) Ixion	2819.51632	20.108	0.161	2819.52182	3.831	0.668	42.882	41.997	V
(28978) Ixion	2819.51803	20.694	0.212	2819.52353	4.417	0.668	42.882	41.997	V
(28978) Ixion	2819.52156	20.977	0.199	2819.52705	4.700	0.669	42.882	41.997	B
(28978) Ixion	2819.52488	19.402	0.273	2819.53037	3.125	0.669	42.882	41.997	I
(28978) Ixion	2821.54714	20.014	0.225	2821.55254	3.736	0.709	42.881	42.013	V
(28978) Ixion	2821.55068	21.434	0.287	2821.55608	5.156	0.709	42.881	42.013	B
(28978) Ixion	2837.50666	20.250	0.189	2837.51113	3.964	0.991	42.872	42.174	V
(28978) Ixion	2837.50837	20.109	0.195	2837.51284	3.823	0.991	42.872	42.174	V
(28978) Ixion	2837.51191	20.996	0.165	2837.51638	4.710	0.991	42.872	42.175	B
(28978) Ixion	2843.51916	20.439	0.145	2843.52320	4.149	1.080	42.869	42.249	B
(28978) Ixion	2846.53019	19.744	0.225	2846.53400	3.452	1.120	42.867	42.289	V
(28978) Ixion	2846.53374	20.844	0.161	2846.53755	4.552	1.120	42.867	42.289	B
				#					
(55636) 2002 TX300	3224.85445	20.344	0.068	3224.85445	4.250	1.245	40.935	40.434	B
(55636) 2002 TX300	3224.85770	19.935	0.112	3224.85770	3.841	1.245	40.935	40.434	V
(55636) 2002 TX300	3224.85941	19.050	0.111	3224.85941	2.956	1.245	40.935	40.434	I
(55636) 2002 TX300	3249.71112	20.282	0.189	3249.71271	4.202	0.903	40.942	40.159	B
(55636) 2002 TX300	3249.71437	19.582	0.210	3249.71596	3.502	0.903	40.942	40.159	V
(55636) 2002 TX300	3249.71609	18.810	0.167	3249.71768	2.730	0.903	40.942	40.159	I
(55636) 2002 TX300	3251.73481	20.366	0.100	3251.73650	4.287	0.871	40.943	40.142	B
(55636) 2002 TX300	3251.73807	19.677	0.113	3251.73976	3.598	0.870	40.943	40.142	V
(55636) 2002 TX300	3251.73979	18.974	0.109	3251.74148	2.895	0.870	40.943	40.142	I
(55636) 2002 TX300	3254.76919	20.221	0.041	3254.77101	4.143	0.822	40.944	40.118	B
(55636) 2002 TX300	3254.77245	19.469	0.067	3254.77427	3.391	0.822	40.944	40.118	V
(55636) 2002 TX300	3254.77417	18.878	0.083	3254.77599	2.800	0.822	40.944	40.118	I
(55636) 2002 TX300	3257.78003	20.401	0.052	3257.78197	4.324	0.774	40.945	40.097	B
(55636) 2002 TX300	3257.78333	19.595	0.072	3257.78527	3.518	0.774	40.945	40.097	V
(55636) 2002 TX300	3257.78508	19.015	0.097	3257.78702	2.938	0.774	40.945	40.097	I
(55636) 2002 TX300	3259.74778	20.251	0.065	3259.74980	4.175	0.743	40.945	40.085	B
(55636) 2002 TX300	3259.75104	19.332	0.096	3259.75306	3.256	0.743	40.945	40.085	V
(55636) 2002 TX300	3259.75276	18.720	0.148	3259.75478	2.644	0.743	40.945	40.085	I

(55636) 2002 TX300	3261.74497	20.290	0.035	3261.74705	4.215	0.711	40.946	40.073	B
(55636) 2002 TX300	3261.74823	19.633	0.063	3261.75031	3.558	0.711	40.946	40.073	V
(55636) 2002 TX300	3261.74995	18.858	0.075	3261.75203	2.783	0.711	40.946	40.073	I
(55636) 2002 TX300	3263.70981	20.246	0.024	3263.71195	4.171	0.681	40.947	40.062	B
(55636) 2002 TX300	3263.71307	19.540	0.044	3263.71521	3.465	0.681	40.947	40.062	V
(55636) 2002 TX300	3263.71480	18.840	0.056	3263.71694	2.765	0.681	40.947	40.062	I
(55636) 2002 TX300	3265.74884	20.358	0.035	3265.75104	4.284	0.651	40.947	40.053	B
(55636) 2002 TX300	3265.75213	19.545	0.061	3265.75433	3.471	0.651	40.947	40.053	V
(55636) 2002 TX300	3265.75388	18.890	0.071	3265.75608	2.816	0.651	40.947	40.053	I
(55636) 2002 TX300	3267.78162	19.407	0.148	3267.78387	3.333	0.623	40.948	40.044	V
(55636) 2002 TX300	3267.78334	18.651	0.184	3267.78559	2.577	0.623	40.948	40.044	I
(55636) 2002 TX300	3269.80140	20.299	0.058	3269.80370	4.226	0.596	40.949	40.036	B
(55636) 2002 TX300	3269.80466	19.575	0.196	3269.80696	3.502	0.596	40.949	40.036	V
(55636) 2002 TX300	3269.80638	19.028	0.295	3269.80868	2.955	0.596	40.949	40.036	I
(55636) 2002 TX300	3271.72757	20.326	0.059	3271.72990	4.253	0.572	40.949	40.030	B
(55636) 2002 TX300	3271.73084	19.492	0.067	3271.73317	3.419	0.572	40.949	40.030	V
(55636) 2002 TX300	3271.73256	18.859	0.070	3271.73489	2.786	0.572	40.949	40.030	I
(55636) 2002 TX300	3273.71659	20.141	0.115	3273.71895	4.068	0.550	40.950	40.025	B
(55636) 2002 TX300	3273.71988	19.541	0.134	3273.72224	3.468	0.550	40.950	40.025	V
(55636) 2002 TX300	3273.72164	18.823	0.088	3273.72400	2.750	0.550	40.950	40.025	I
(55636) 2002 TX300	3281.71200	19.544	0.074	3281.71442	3.472	0.493	40.952	40.014	V
(55636) 2002 TX300	3281.71374	18.831	0.070	3281.71616	2.759	0.493	40.952	40.014	I
(55636) 2002 TX300	3283.70227	20.251	0.028	3283.70469	4.179	0.489	40.953	40.014	B
(55636) 2002 TX300	3283.70555	19.576	0.052	3283.70797	3.504	0.489	40.953	40.014	V
(55636) 2002 TX300	3283.70729	18.825	0.070	3283.70971	2.753	0.489	40.953	40.014	I
(55636) 2002 TX300	3291.65234	20.323	0.040	3291.65469	4.250	0.512	40.955	40.026	B
(55636) 2002 TX300	3291.65564	19.555	0.070	3291.65799	3.482	0.512	40.955	40.026	V
(55636) 2002 TX300	3291.65739	18.720	0.083	3291.65974	2.647	0.512	40.955	40.026	I
(55636) 2002 TX300	3293.64542	20.367	0.061	3293.64774	4.293	0.528	40.956	40.032	B
(55636) 2002 TX300	3293.64871	19.559	0.104	3293.65103	3.485	0.528	40.956	40.032	V
(55636) 2002 TX300	3293.65047	19.041	0.156	3293.65279	2.967	0.528	40.956	40.032	I
(55636) 2002 TX300	3295.67248	20.295	0.030	3295.67476	4.221	0.547	40.956	40.039	B
(55636) 2002 TX300	3295.67578	19.488	0.055	3295.67806	3.414	0.547	40.956	40.039	V
(55636) 2002 TX300	3295.67754	18.911	0.072	3295.67982	2.837	0.547	40.956	40.039	I
(55636) 2002 TX300	3297.67597	20.258	0.031	3297.67820	4.184	0.569	40.957	40.047	B
(55636) 2002 TX300	3297.68103	18.868	0.233	3297.68326	2.794	0.569	40.957	40.047	I
(55636) 2002 TX300	3299.67439	20.289	0.041	3299.67657	4.214	0.593	40.958	40.056	B
(55636) 2002 TX300	3299.67769	19.584	0.064	3299.67987	3.509	0.593	40.958	40.056	V
(55636) 2002 TX300	3299.67944	18.840	0.065	3299.68162	2.765	0.593	40.958	40.056	I
(55636) 2002 TX300	3302.60379	20.121	0.146	3302.60588	4.045	0.632	40.959	40.071	B
(55636) 2002 TX300	3302.60708	19.450	0.187	3302.60917	3.374	0.632	40.959	40.071	V
(55636) 2002 TX300	3302.60884	18.964	0.166	3302.61093	2.888	0.632	40.959	40.071	I
(55636) 2002 TX300	3307.62713	20.452	0.264	3307.62904	4.374	0.706	40.960	40.103	B
(55636) 2002 TX300	3307.63044	19.426	0.210	3307.63235	3.348	0.706	40.960	40.103	V
(55636) 2002 TX300	3307.63220	18.845	0.175	3307.63411	2.767	0.706	40.960	40.103	I
(55636) 2002 TX300	3309.60679	19.433	0.076	3309.60862	3.354	0.736	40.961	40.118	V
(55636) 2002 TX300	3309.60856	18.848	0.087	3309.61039	2.769	0.736	40.961	40.118	I
(55636) 2002 TX300	3311.59818	20.279	0.027	3311.59992	4.200	0.767	40.961	40.133	B
(55636) 2002 TX300	3311.60148	19.702	0.059	3311.60322	3.623	0.768	40.961	40.133	V
(55636) 2002 TX300	3311.60324	18.923	0.067	3311.60498	2.844	0.768	40.961	40.133	I

(55636) 2002 TX300	3325.57787	20.286	0.031	3325.57882	4.199	0.985	40.966	40.269	B
(55636) 2002 TX300	3325.58117	19.597	0.052	3325.58212	3.510	0.985	40.966	40.269	V
(55636) 2002 TX300	3325.58293	18.955	0.079	3325.58388	2.868	0.985	40.966	40.269	I
(55636) 2002 TX300	3329.58035	20.271	0.059	3329.58103	4.181	1.043	40.967	40.316	B
(55636) 2002 TX300	3329.58365	19.493	0.077	3329.58433	3.403	1.043	40.967	40.316	V
(55636) 2002 TX300	3329.58541	18.898	0.082	3329.58609	2.808	1.043	40.967	40.316	I
(55636) 2002 TX300	3331.53421	20.279	0.152	3331.53475	4.188	1.071	40.967	40.340	B
(55636) 2002 TX300	3331.53751	19.409	0.162	3331.53805	3.318	1.071	40.967	40.340	V
(55636) 2002 TX300	3334.56090	20.413	0.253	3334.56122	4.320	1.111	40.968	40.378	B
(55636) 2002 TX300	3334.56419	19.468	0.223	3334.56451	3.375	1.111	40.968	40.378	V
(55636) 2002 TX300	3334.56595	18.787	0.169	3334.56627	2.694	1.111	40.968	40.378	I
(55636) 2002 TX300	3338.55692	20.274	0.040	3338.55693	4.178	1.161	40.970	40.432	B
(55636) 2002 TX300	3338.56022	19.361	0.061	3338.56023	3.265	1.161	40.970	40.432	V
(55636) 2002 TX300	3338.56197	18.832	0.091	3338.56198	2.736	1.161	40.970	40.432	I
(55636) 2002 TX300	3340.52714	20.245	0.054	3340.52699	4.148	1.183	40.970	40.459	B
(55636) 2002 TX300	3340.53044	19.567	0.061	3340.53029	3.470	1.183	40.970	40.459	V
(55636) 2002 TX300	3340.53220	18.911	0.074	3340.53205	2.814	1.183	40.970	40.459	I
(55636) 2002 TX300	3344.53053	19.647	0.076	3344.53005	3.546	1.226	40.971	40.517	V
(55636) 2002 TX300	3344.53228	18.867	0.078	3344.53180	2.766	1.226	40.971	40.517	I
(55636) 2002 TX300	3349.54627	20.355	0.047	3349.54536	4.250	1.273	40.973	40.592	B
(55636) 2002 TX300	3352.53220	20.205	0.079	3352.53102	4.098	1.297	40.974	40.638	B
(55636) 2002 TX300	3352.53551	19.804	0.085	3352.53433	3.697	1.297	40.974	40.639	V
(55636) 2002 TX300	3352.53726	18.867	0.169	3352.53608	2.760	1.297	40.974	40.639	I
(55636) 2002 TX300	3354.53114	20.342	0.086	3354.52978	4.233	1.311	40.974	40.670	B
(55636) 2002 TX300	3354.53444	19.817	0.082	3354.53308	3.708	1.311	40.974	40.670	V
(55636) 2002 TX300	3354.53620	19.045	0.094	3354.53484	2.936	1.311	40.974	40.670	I
(55636) 2002 TX300	3356.53380	20.569	0.139	3356.53225	4.458	1.324	40.975	40.702	B
(55636) 2002 TX300	3356.53710	19.661	0.095	3356.53555	3.550	1.324	40.975	40.702	V
(55636) 2002 TX300	3356.53885	18.935	0.096	3356.53730	2.824	1.324	40.975	40.702	I
(55636) 2002 TX300	3358.52653	19.612	0.158	3358.52480	3.500	1.335	40.976	40.734	V
(55636) 2002 TX300	3358.52828	18.914	0.155	3358.52655	2.802	1.335	40.976	40.734	I
				#					
(55565) 2002 AW197	2696.63646	20.052	0.101	2696.63646	3.349	0.497	47.264	46.363	V
(55565) 2002 AW197	2696.63863	20.661	0.168	2696.63863	3.958	0.497	47.264	46.363	V
(55565) 2002 AW197	2696.64357	21.174	0.083	2696.64357	4.471	0.497	47.264	46.363	B
(55565) 2002 AW197	2696.64830	19.261	0.155	2696.64830	2.557	0.497	47.264	46.363	I
(55565) 2002 AW197	2698.66134	21.099	0.096	2698.66126	4.395	0.534	47.263	46.376	B
(55565) 2002 AW197	2698.66700	20.569	0.199	2698.66692	3.865	0.534	47.263	46.376	V
(55565) 2002 AW197	2698.66916	20.079	0.133	2698.66908	3.375	0.534	47.263	46.376	V
(55565) 2002 AW197	2698.67141	19.209	0.187	2698.67133	2.505	0.534	47.263	46.376	I
(55565) 2002 AW197	2700.70830	20.364	0.152	2700.70814	3.659	0.572	47.263	46.391	V
(55565) 2002 AW197	2700.71047	20.891	0.260	2700.71031	4.186	0.572	47.263	46.391	V
(55565) 2002 AW197	2700.71541	21.170	0.093	2700.71525	4.465	0.572	47.263	46.391	B
(55565) 2002 AW197	2700.72014	19.359	0.180	2700.71998	2.654	0.572	47.263	46.391	I
(55565) 2002 AW197	2702.67722	20.535	0.211	2702.67697	3.830	0.607	47.262	46.406	V
(55565) 2002 AW197	2702.67939	20.395	0.203	2702.67914	3.690	0.607	47.262	46.406	V
(55565) 2002 AW197	2702.68433	21.540	0.174	2702.68408	4.835	0.607	47.262	46.406	B
(55565) 2002 AW197	2702.69120	19.201	0.253	2702.69095	2.496	0.608	47.262	46.406	I
(55565) 2002 AW197	2704.68183	20.555	0.206	2704.68148	3.849	0.643	47.261	46.423	V
(55565) 2002 AW197	2704.68400	20.024	0.128	2704.68365	3.318	0.643	47.261	46.423	V

(55565) 2002 AW197	2704.68893	21.420	0.144	2704.68858	4.714	0.643	47.261	46.423	B
(55565) 2002 AW197	2704.69366	19.047	0.175	2704.69331	2.341	0.643	47.261	46.423	I
(55565) 2002 AW197	2706.64926	20.540	0.160	2706.64881	3.833	0.677	47.261	46.440	V
(55565) 2002 AW197	2706.65143	20.385	0.140	2706.65098	3.678	0.678	47.261	46.440	V
(55565) 2002 AW197	2706.65636	21.295	0.097	2706.65591	4.588	0.678	47.261	46.440	B
(55565) 2002 AW197	2706.66109	19.226	0.149	2706.66064	2.519	0.678	47.261	46.440	I
(55565) 2002 AW197	2708.61425	20.416	0.137	2708.61370	3.708	0.711	47.260	46.458	V
(55565) 2002 AW197	2708.61641	20.340	0.127	2708.61586	3.632	0.711	47.260	46.458	V
(55565) 2002 AW197	2708.62135	21.296	0.090	2708.62080	4.588	0.711	47.260	46.458	B
(55565) 2002 AW197	2708.62607	19.284	0.161	2708.62552	2.576	0.711	47.260	46.458	I
(55565) 2002 AW197	2710.62509	20.347	0.147	2710.62443	3.638	0.745	47.259	46.478	V
(55565) 2002 AW197	2710.62726	20.686	0.197	2710.62660	3.977	0.745	47.259	46.478	V
(55565) 2002 AW197	2710.63219	21.255	0.125	2710.63153	4.546	0.745	47.259	46.478	B
(55565) 2002 AW197	2710.63691	19.163	0.132	2710.63625	2.454	0.745	47.259	46.478	I
(55565) 2002 AW197	2718.67207	18.963	0.171	2718.67090	2.250	0.871	47.257	46.566	I
(55565) 2002 AW197	2724.69327	20.033	0.180	2724.69167	3.317	0.954	47.255	46.640	V
(55565) 2002 AW197	2726.59242	20.297	0.261	2726.59068	3.580	0.979	47.254	46.665	V
(55565) 2002 AW197	2726.59736	21.189	0.155	2726.59562	4.472	0.979	47.254	46.665	B
(55565) 2002 AW197	2726.60209	19.638	0.185	2726.60034	2.921	0.979	47.254	46.665	I
(55565) 2002 AW197	2728.60007	20.408	0.139	2728.59817	3.690	1.003	47.254	46.692	V
(55565) 2002 AW197	2728.60224	20.407	0.134	2728.60034	3.689	1.003	47.254	46.692	V
(55565) 2002 AW197	2728.60718	21.256	0.094	2728.60528	4.538	1.003	47.254	46.692	B
(55565) 2002 AW197	2728.61192	19.343	0.222	2728.61002	2.625	1.003	47.254	46.692	I
(55565) 2002 AW197	2730.58462	20.840	0.177	2730.58256	4.120	1.026	47.253	46.719	V
(55565) 2002 AW197	2730.58678	20.603	0.140	2730.58472	3.883	1.026	47.253	46.720	V
(55565) 2002 AW197	2730.59172	21.467	0.088	2730.58966	4.747	1.026	47.253	46.720	B
(55565) 2002 AW197	2730.59646	19.260	0.132	2730.59440	2.540	1.026	47.253	46.720	I
(55565) 2002 AW197	2732.58622	20.354	0.140	2732.58400	3.633	1.049	47.252	46.748	V
(55565) 2002 AW197	2732.58839	20.304	0.140	2732.58617	3.583	1.049	47.252	46.748	V
(55565) 2002 AW197	2732.59334	21.358	0.096	2732.59112	4.637	1.049	47.252	46.748	B
(55565) 2002 AW197	2734.59869	20.953	0.261	2734.59630	4.231	1.069	47.252	46.777	V
(55565) 2002 AW197	2734.60085	20.552	0.181	2734.59846	3.830	1.069	47.252	46.777	V
(55565) 2002 AW197	2734.60579	21.153	0.219	2734.60340	4.431	1.069	47.252	46.777	B
(55565) 2002 AW197	2734.61053	19.214	0.180	2734.60814	2.492	1.070	47.252	46.777	I
(55565) 2002 AW197	2738.58422	20.551	0.167	2738.58149	3.826	1.107	47.250	46.836	V
(55565) 2002 AW197	2738.58639	20.829	0.205	2738.58366	4.104	1.107	47.250	46.836	V
(55565) 2002 AW197	2738.59133	21.051	0.233	2738.58860	4.326	1.107	47.250	46.836	B
(55565) 2002 AW197	2738.59606	19.264	0.149	2738.59333	2.539	1.107	47.250	46.836	I
(55565) 2002 AW197	2748.56978	19.877	0.289	2748.56615	3.145	1.179	47.247	46.991	V
(55565) 2002 AW197	2750.59874	20.519	0.286	2750.59492	3.786	1.189	47.246	47.024	V
(55565) 2002 AW197	2750.60367	21.223	0.188	2750.59985	4.490	1.189	47.246	47.024	B
(55565) 2002 AW197	2750.60839	19.299	0.204	2750.60457	2.566	1.189	47.246	47.024	I
(55565) 2002 AW197	2752.50506	20.295	0.143	2752.50106	3.560	1.198	47.246	47.055	V
(55565) 2002 AW197	2752.50722	20.603	0.181	2752.50322	3.868	1.198	47.246	47.055	V
(55565) 2002 AW197	2752.51214	21.315	0.081	2752.50814	4.580	1.198	47.246	47.055	B
(55565) 2002 AW197	2752.51686	19.503	0.241	2752.51286	2.768	1.198	47.246	47.055	I
(55565) 2002 AW197	2754.50548	20.418	0.135	2754.50130	3.682	1.205	47.245	47.088	V
(55565) 2002 AW197	2754.50765	20.343	0.131	2754.50346	3.607	1.205	47.245	47.088	V
(55565) 2002 AW197	2754.51257	21.500	0.098	2754.50838	4.764	1.205	47.245	47.088	B
(55565) 2002 AW197	2754.51728	19.638	0.221	2754.51309	2.902	1.205	47.245	47.088	I

(55565) 2002 AW197	2760.48588	20.446	0.180	2760.48113	3.705	1.219	47.243	47.186	V
(55565) 2002 AW197	2760.48805	20.467	0.150	2760.48330	3.726	1.219	47.243	47.186	V
(55565) 2002 AW197	2760.49299	21.360	0.090	2760.48824	4.619	1.219	47.243	47.186	B
(55565) 2002 AW197	2760.49773	19.261	0.203	2760.49298	2.520	1.219	47.243	47.186	I
(55565) 2002 AW197	2762.49649	20.335	0.209	2762.49154	3.593	1.221	47.243	47.219	V
(55565) 2002 AW197	2762.49866	20.498	0.255	2762.49371	3.756	1.221	47.243	47.219	V
(55565) 2002 AW197	2762.50359	21.339	0.125	2762.49864	4.597	1.222	47.243	47.219	B
(55565) 2002 AW197	2766.46231	20.313	0.206	2766.45699	3.568	1.221	47.241	47.285	V
(55565) 2002 AW197	2766.46941	21.259	0.119	2766.46408	4.514	1.221	47.241	47.285	B
(55565) 2002 AW197	2766.47414	18.922	0.232	2766.46881	2.177	1.221	47.241	47.285	I
(55565) 2002 AW197	2786.45850	21.331	0.169	2786.45132	4.571	1.140	47.235	47.606	B
(55565) 2002 AW197	2786.46323	19.431	0.256	2786.45605	2.671	1.140	47.235	47.606	I
(55565) 2002 AW197	2790.49552	20.503	0.249	2790.48799	3.741	1.108	47.234	47.667	V
(55565) 2002 AW197	2790.49769	20.588	0.274	2790.49016	3.826	1.108	47.234	47.667	V
(55565) 2002 AW197	2794.47768	20.569	0.273	2794.46982	3.804	1.072	47.232	47.725	V
(55565) 2002 AW197	2794.47984	20.519	0.251	2794.47197	3.754	1.072	47.232	47.725	V
(55565) 2002 AW197	2794.48478	21.244	0.189	2794.47691	4.479	1.072	47.232	47.725	B
(55565) 2002 AW197	2794.48951	19.210	0.252	2794.48164	2.445	1.072	47.232	47.725	I
(55565) 2002 AW197	2973.75808	20.491	0.070	2973.75554	3.771	1.117	47.174	46.803	V
(55565) 2002 AW197	2973.76040	20.506	0.067	2973.75786	3.786	1.117	47.174	46.803	V
(55565) 2002 AW197	2973.76543	21.289	0.041	2973.76289	4.569	1.117	47.174	46.803	B
(55565) 2002 AW197	2973.77048	19.322	0.066	2973.76794	2.602	1.117	47.174	46.803	I
(55565) 2002 AW197	2975.76201	20.532	0.072	2975.75966	3.814	1.101	47.174	46.771	V
(55565) 2002 AW197	2975.76433	20.434	0.064	2975.76198	3.716	1.101	47.174	46.770	V
(55565) 2002 AW197	2975.76936	21.337	0.045	2975.76701	4.619	1.100	47.174	46.770	B
(55565) 2002 AW197	2975.77442	19.408	0.068	2975.77207	2.690	1.100	47.174	46.770	I
(55565) 2002 AW197	2980.72305	20.308	0.231	2980.72115	3.593	1.054	47.172	46.693	V
(55565) 2002 AW197	2980.72536	20.239	0.182	2980.72346	3.524	1.054	47.172	46.693	V
(55565) 2002 AW197	2980.73039	20.910	0.167	2980.72849	4.195	1.054	47.172	46.692	B
(55565) 2002 AW197	2980.73544	19.181	0.091	2980.73354	2.466	1.054	47.172	46.692	I
(55565) 2002 AW197	3001.77937	20.286	0.051	3001.77911	3.585	0.775	47.165	46.409	V
(55565) 2002 AW197	3001.78169	20.330	0.053	3001.78143	3.629	0.775	47.165	46.409	V
(55565) 2002 AW197	3001.82296	21.293	0.037	3001.82270	4.592	0.774	47.165	46.408	B
(55565) 2002 AW197	3001.82802	19.351	0.055	3001.82776	2.650	0.774	47.165	46.408	I
(55565) 2002 AW197	3022.77672	21.267	0.047	3022.77749	4.575	0.402	47.158	46.229	B
(55565) 2002 AW197	3022.78176	20.357	0.066	3022.78253	3.665	0.401	47.158	46.229	V
(55565) 2002 AW197	3022.78407	20.374	0.065	3022.78484	3.682	0.401	47.158	46.229	V
(55565) 2002 AW197	3022.78653	19.210	0.084	3022.78730	2.518	0.401	47.158	46.229	I
(55565) 2002 AW197	3024.71212	21.300	0.035	3024.71295	4.608	0.366	47.158	46.219	B
(55565) 2002 AW197	3024.71717	20.308	0.049	3024.71800	3.616	0.366	47.158	46.219	V
(55565) 2002 AW197	3024.71949	20.305	0.049	3024.72032	3.613	0.366	47.158	46.218	V
(55565) 2002 AW197	3024.72194	19.245	0.059	3024.72277	2.553	0.366	47.158	46.218	I
(55565) 2002 AW197	3039.71026	21.247	0.216	3039.71134	4.557	0.165	47.153	46.176	B
(55565) 2002 AW197	3039.71636	20.357	0.188	3039.71744	3.667	0.165	47.153	46.176	V
(55565) 2002 AW197	3039.71867	20.192	0.181	3039.71975	3.502	0.165	47.153	46.176	V
(55565) 2002 AW197	3039.72119	19.226	0.121	3039.72227	2.536	0.165	47.153	46.176	I
(55565) 2002 AW197	3044.71718	20.955	0.135	3044.71825	4.265	0.191	47.151	46.177	B
(55565) 2002 AW197	3044.72222	20.128	0.136	3044.72329	3.438	0.191	47.151	46.177	V
(55565) 2002 AW197	3044.72454	20.186	0.144	3044.72561	3.496	0.191	47.151	46.177	V
(55565) 2002 AW197	3044.72701	19.158	0.086	3044.72808	2.468	0.191	47.151	46.177	I

(55565) 2002 AW197	3046.71341	21.265	0.107	3046.71447	4.575	0.215	47.151	46.180	B
(55565) 2002 AW197	3046.71845	20.468	0.112	3046.71951	3.778	0.215	47.151	46.180	V
(55565) 2002 AW197	3046.72077	20.344	0.107	3046.72183	3.654	0.216	47.151	46.180	V
(55565) 2002 AW197	3046.72323	19.379	0.083	3046.72429	2.689	0.216	47.151	46.180	I
(55565) 2002 AW197	3050.69070	20.341	0.052	3050.69171	3.651	0.277	47.149	46.189	V
(55565) 2002 AW197	3050.69301	20.308	0.069	3050.69402	3.618	0.277	47.149	46.189	V
(55565) 2002 AW197	3050.69547	19.146	0.052	3050.69648	2.456	0.277	47.149	46.189	I
(55565) 2002 AW197	3050.69786	19.116	0.051	3050.69887	2.426	0.277	47.149	46.189	I
(55565) 2002 AW197	3064.66168	20.340	0.075	3064.66229	3.647	0.533	47.145	46.256	V
(55565) 2002 AW197	3064.66400	20.343	0.070	3064.66461	3.650	0.533	47.145	46.257	V
(55565) 2002 AW197	3064.66646	19.245	0.062	3064.66708	2.552	0.533	47.145	46.257	I
(55565) 2002 AW197	3064.66885	19.235	0.066	3064.66946	2.542	0.533	47.145	46.257	I
				#					
(55637) 2002 UX25	2845.89169	20.345	0.154	2845.89169	4.059	1.361	42.579	42.464	V
(55637) 2002 UX25	2845.89398	20.399	0.154	2845.89398	4.113	1.361	42.579	42.464	V
(55637) 2002 UX25	2845.89897	21.203	0.168	2845.89897	4.917	1.361	42.579	42.464	B
(55637) 2002 UX25	2845.90398	19.546	0.268	2845.90398	3.260	1.361	42.579	42.464	I
(55637) 2002 UX25	2854.80946	20.552	0.084	2854.81033	4.274	1.325	42.576	42.312	V
(55637) 2002 UX25	2854.81175	20.504	0.089	2854.81262	4.226	1.325	42.576	42.312	V
(55637) 2002 UX25	2854.81695	21.538	0.070	2854.81782	5.260	1.325	42.576	42.312	B
(55637) 2002 UX25	2854.82200	19.390	0.131	2854.82287	3.112	1.325	42.576	42.312	I
(55637) 2002 UX25	2856.82967	20.351	0.137	2856.83074	4.075	1.313	42.575	42.279	V
(55637) 2002 UX25	2856.83196	20.237	0.127	2856.83303	3.961	1.313	42.575	42.279	V
(55637) 2002 UX25	2856.83707	21.222	0.114	2856.83814	4.946	1.313	42.575	42.279	B
(55637) 2002 UX25	2856.84214	19.160	0.188	2856.84321	2.884	1.313	42.575	42.279	I
(55637) 2002 UX25	2858.82793	20.254	0.125	2858.82919	3.979	1.299	42.574	42.246	V
(55637) 2002 UX25	2858.83293	21.337	0.062	2858.83419	5.062	1.299	42.574	42.246	B
(55637) 2002 UX25	2858.83795	19.255	0.098	2858.83921	2.980	1.299	42.574	42.246	I
(55637) 2002 UX25	2859.87063	20.277	0.086	2859.87199	4.003	1.291	42.574	42.229	V
(55637) 2002 UX25	2859.87294	20.384	0.070	2859.87430	4.110	1.291	42.574	42.229	V
(55637) 2002 UX25	2859.87798	21.300	0.086	2859.87934	5.026	1.291	42.574	42.229	B
(55637) 2002 UX25	2859.88304	19.264	0.098	2859.88440	2.990	1.291	42.574	42.229	I
(55637) 2002 UX25	2860.89558	20.371	0.071	2860.89703	4.098	1.283	42.574	42.212	V
(55637) 2002 UX25	2860.90286	21.359	0.041	2860.90431	5.086	1.283	42.574	42.212	B
(55637) 2002 UX25	2860.90788	19.193	0.080	2860.90933	2.920	1.283	42.574	42.212	I
(55637) 2002 UX25	2862.85391	20.225	0.133	2862.85555	3.954	1.267	42.573	42.181	V
(55637) 2002 UX25	2862.85619	20.170	0.153	2862.85783	3.899	1.267	42.573	42.181	V
(55637) 2002 UX25	2862.86120	21.360	0.167	2862.86284	5.089	1.266	42.573	42.181	B
(55637) 2002 UX25	2862.86622	19.295	0.074	2862.86785	3.024	1.266	42.573	42.181	I
(55637) 2002 UX25	2863.84196	20.014	0.189	2863.84369	3.744	1.258	42.573	42.165	V
(55637) 2002 UX25	2863.84428	20.164	0.189	2863.84601	3.894	1.258	42.573	42.165	V
(55637) 2002 UX25	2863.84932	21.056	0.163	2863.85105	4.786	1.258	42.573	42.165	B
(55637) 2002 UX25	2863.85438	19.188	0.088	2863.85611	2.918	1.258	42.573	42.165	I
(55637) 2002 UX25	2865.85931	20.079	0.196	2865.86122	3.810	1.239	42.572	42.133	V
(55637) 2002 UX25	2866.81159	20.043	0.266	2866.81359	3.775	1.229	42.571	42.118	V
(55637) 2002 UX25	2866.81696	21.238	0.237	2866.81895	4.970	1.229	42.571	42.118	B
(55637) 2002 UX25	2866.82202	19.356	0.133	2866.82401	3.088	1.229	42.571	42.118	I
(55637) 2002 UX25	2873.81801	19.865	0.249	2873.82061	3.603	1.149	42.569	42.013	V
(55637) 2002 UX25	2873.82545	21.289	0.136	2873.82805	5.027	1.149	42.569	42.013	B
(55637) 2002 UX25	2875.82912	20.451	0.066	2875.83189	4.190	1.123	42.568	41.984	V

(55637) 2002 UX25	2875.83120	20.379	0.064	2875.83397	4.118	1.123	42.568	41.984	V
(55637) 2002 UX25	2875.83657	21.299	0.040	2875.83934	5.038	1.123	42.568	41.984	B
(55637) 2002 UX25	2875.84163	19.342	0.070	2875.84440	3.081	1.123	42.568	41.984	I
(55637) 2002 UX25	2876.75221	20.342	0.076	2876.75506	4.082	1.110	42.568	41.971	V
(55637) 2002 UX25	2876.75452	20.319	0.086	2876.75737	4.059	1.110	42.568	41.971	V
(55637) 2002 UX25	2876.75956	21.279	0.053	2876.76241	5.019	1.110	42.568	41.971	B
(55637) 2002 UX25	2876.76462	19.351	0.085	2876.76747	3.091	1.110	42.568	41.971	I
(55637) 2002 UX25	2886.79747	20.358	0.093	2886.80108	4.105	0.958	42.564	41.839	V
(55637) 2002 UX25	2886.79978	20.384	0.088	2886.80339	4.131	0.957	42.564	41.839	V
(55637) 2002 UX25	2886.80482	21.238	0.082	2886.80843	4.985	0.957	42.564	41.839	B
(55637) 2002 UX25	2886.80988	19.390	0.087	2886.81349	3.137	0.957	42.564	41.839	I
(55637) 2002 UX25	2890.72738	20.914	0.210	2890.73125	4.663	0.890	42.562	41.793	B
(55637) 2002 UX25	2892.78011	20.286	0.216	2892.78411	4.037	0.852	42.562	41.771	V
(55637) 2002 UX25	2892.78243	20.139	0.188	2892.78643	3.890	0.852	42.562	41.771	V
(55637) 2002 UX25	2892.78747	21.045	0.210	2892.79147	4.796	0.852	42.562	41.771	B
(55637) 2002 UX25	2892.79254	19.165	0.090	2892.79654	2.916	0.852	42.562	41.771	I
(55637) 2002 UX25	2894.73951	19.209	0.199	2894.74363	2.961	0.816	42.561	41.750	I
(55637) 2002 UX25	2897.76076	20.100	0.167	2897.76506	3.853	0.758	42.560	41.720	V
(55637) 2002 UX25	2897.76308	20.154	0.191	2897.76738	3.907	0.758	42.560	41.720	V
(55637) 2002 UX25	2897.76811	20.974	0.169	2897.77241	4.727	0.758	42.560	41.720	B
(55637) 2002 UX25	2897.77317	19.358	0.175	2897.77747	3.111	0.758	42.560	41.720	I
(55637) 2002 UX25	2901.75604	19.976	0.247	2901.76055	3.731	0.678	42.558	41.683	V
(55637) 2002 UX25	2901.75835	20.083	0.249	2901.76286	3.838	0.678	42.558	41.683	V
(55637) 2002 UX25	2901.76338	21.034	0.184	2901.76789	4.789	0.678	42.558	41.683	B
(55637) 2002 UX25	2901.76844	18.874	0.247	2901.77295	2.629	0.677	42.558	41.683	I
(55637) 2002 UX25	2903.75201	20.117	0.068	2903.75662	3.873	0.636	42.557	41.667	V
(55637) 2002 UX25	2903.75433	20.244	0.056	2903.75894	4.000	0.636	42.557	41.667	V
(55637) 2002 UX25	2903.75937	21.180	0.041	2903.76397	4.936	0.636	42.557	41.666	B
(55637) 2002 UX25	2903.76443	19.096	0.173	2903.76903	2.852	0.636	42.557	41.666	I
(55637) 2002 UX25	2905.80206	20.272	0.073	2905.80676	4.029	0.593	42.557	41.650	V
(55637) 2002 UX25	2905.80438	20.245	0.075	2905.80908	4.002	0.593	42.557	41.650	V
(55637) 2002 UX25	2905.80942	21.169	0.048	2905.81412	4.926	0.593	42.557	41.650	B
(55637) 2002 UX25	2905.81448	19.253	0.077	2905.81918	3.010	0.593	42.557	41.650	I
(55637) 2002 UX25	2907.75093	20.228	0.069	2907.75571	3.986	0.551	42.556	41.636	V
(55637) 2002 UX25	2907.75324	20.220	0.062	2907.75802	3.978	0.551	42.556	41.636	V
(55637) 2002 UX25	2907.76334	19.247	0.054	2907.76812	3.005	0.551	42.556	41.636	I
(55637) 2002 UX25	2909.69621	20.104	0.123	2909.70107	3.863	0.509	42.555	41.623	V
(55637) 2002 UX25	2909.69853	20.361	0.114	2909.70339	4.120	0.509	42.555	41.623	V
(55637) 2002 UX25	2909.70356	21.201	0.277	2909.70842	4.960	0.509	42.555	41.623	B
(55637) 2002 UX25	2911.70133	20.238	0.117	2911.70626	3.997	0.465	42.554	41.611	V
(55637) 2002 UX25	2911.70869	20.920	0.109	2911.71362	4.679	0.464	42.554	41.611	B
(55637) 2002 UX25	2911.71376	19.179	0.181	2911.71869	2.938	0.464	42.554	41.611	I
(55637) 2002 UX25	2925.67138	19.921	0.131	2925.67662	3.683	0.143	42.549	41.556	V
(55637) 2002 UX25	2925.67369	19.995	0.140	2925.67893	3.757	0.143	42.549	41.556	V
(55637) 2002 UX25	2925.67872	21.207	0.158	2925.68396	4.969	0.143	42.549	41.556	B
(55637) 2002 UX25	2925.68379	18.974	0.108	2925.68903	2.736	0.143	42.549	41.556	I
(55637) 2002 UX25	2927.70558	19.958	0.098	2927.71084	3.721	0.095	42.548	41.553	V
(55637) 2002 UX25	2927.70790	20.007	0.096	2927.71316	3.770	0.095	42.548	41.553	V
(55637) 2002 UX25	2927.71293	21.045	0.088	2927.71819	4.808	0.095	42.548	41.553	B
(55637) 2002 UX25	2927.71800	19.032	0.083	2927.72326	2.795	0.095	42.548	41.553	I

(55637) 2002 UX25	2929.63498	20.266	0.079	2929.64025	4.029	0.049	42.547	41.551	V
(55637) 2002 UX25	2929.63730	20.236	0.085	2929.64257	3.999	0.049	42.547	41.551	V
(55637) 2002 UX25	2929.64234	21.242	0.050	2929.64761	5.005	0.049	42.547	41.551	B
(55637) 2002 UX25	2929.64741	19.063	0.068	2929.65268	2.826	0.049	42.547	41.551	I
(55637) 2002 UX25	2932.64440	20.074	0.047	2932.64967	3.837	0.023	42.546	41.551	V
(55637) 2002 UX25	2932.64671	20.113	0.047	2932.65198	3.876	0.023	42.546	41.551	V
(55637) 2002 UX25	2932.65174	21.052	0.030	2932.65701	4.815	0.023	42.546	41.551	B
(55637) 2002 UX25	2932.65681	19.028	0.054	2932.66208	2.791	0.023	42.546	41.551	I
(55637) 2002 UX25	2941.62687	20.245	0.055	2941.63206	4.007	0.234	42.543	41.565	V
(55637) 2002 UX25	2941.62919	20.164	0.050	2941.63438	3.926	0.234	42.543	41.565	V
(55637) 2002 UX25	2941.63422	21.206	0.035	2941.63941	4.968	0.235	42.543	41.565	B
(55637) 2002 UX25	2941.63929	19.145	0.048	2941.64448	2.907	0.235	42.543	41.565	I
(55637) 2002 UX25	2943.68814	20.108	0.060	2943.69329	3.870	0.282	42.542	41.572	V
(55637) 2002 UX25	2943.68814	20.237	0.066	2943.69329	3.999	0.282	42.542	41.572	V
(55637) 2002 UX25	2943.69560	21.107	0.051	2943.70075	4.869	0.282	42.542	41.572	B
(55637) 2002 UX25	2943.70066	19.203	0.063	2943.70581	2.965	0.283	42.542	41.572	I
(55637) 2002 UX25	2944.67872	20.133	0.070	2944.68385	3.895	0.305	42.542	41.576	V
(55637) 2002 UX25	2944.68104	20.162	0.078	2944.68617	3.924	0.305	42.542	41.576	V
(55637) 2002 UX25	2944.68608	21.141	0.060	2944.69121	4.903	0.305	42.542	41.576	B
(55637) 2002 UX25	2944.69114	19.143	0.066	2944.69627	2.905	0.305	42.542	41.576	I
(55637) 2002 UX25	2945.63328	20.221	0.111	2945.63839	3.983	0.327	42.541	41.580	V
(55637) 2002 UX25	2945.63560	20.294	0.117	2945.64071	4.056	0.327	42.541	41.580	V
(55637) 2002 UX25	2945.64064	20.802	0.081	2945.64575	4.564	0.327	42.541	41.580	B
(55637) 2002 UX25	2945.64570	19.231	0.094	2945.65081	2.993	0.327	42.541	41.580	I
(55637) 2002 UX25	2947.60159	20.047	0.110	2947.60665	3.808	0.372	42.541	41.588	V
(55637) 2002 UX25	2947.60391	20.389	0.155	2947.60897	4.150	0.372	42.541	41.588	V
(55637) 2002 UX25	2947.61400	19.140	0.086	2947.61905	2.901	0.372	42.541	41.588	I
(55637) 2002 UX25	2952.63335	20.574	0.245	2952.63825	4.334	0.485	42.539	41.616	V
(55637) 2002 UX25	2969.60661	20.333	0.066	2969.61067	4.086	0.831	42.532	41.761	V
(55637) 2002 UX25	2969.60892	20.255	0.062	2969.61298	4.008	0.832	42.532	41.761	V
(55637) 2002 UX25	2969.61901	19.202	0.104	2969.62307	2.955	0.832	42.532	41.761	I
(55637) 2002 UX25	2973.59207	20.320	0.078	2973.59588	4.070	0.903	42.531	41.805	V
(55637) 2002 UX25	2973.59439	20.342	0.119	2973.59820	4.092	0.903	42.531	41.805	V
(55637) 2002 UX25	2973.59942	21.354	0.081	2973.60322	5.104	0.903	42.531	41.805	B
(55637) 2002 UX25	2973.60448	19.184	0.118	2973.60828	2.934	0.903	42.531	41.805	I
(55637) 2002 UX25	2975.55695	20.507	0.096	2975.56062	4.256	0.936	42.530	41.828	V
(55637) 2002 UX25	2975.55927	20.300	0.084	2975.56294	4.049	0.936	42.530	41.828	V
(55637) 2002 UX25	2975.56430	21.293	0.082	2975.56797	5.042	0.936	42.530	41.828	B
(55637) 2002 UX25	2975.56936	19.175	0.063	2975.57303	2.924	0.936	42.530	41.828	I
(55637) 2002 UX25	2996.59579	20.357	0.175	2996.59776	4.091	1.214	42.522	42.123	V
(55637) 2002 UX25	2996.59811	20.160	0.153	2996.60008	3.894	1.214	42.522	42.123	V
(55637) 2002 UX25	2996.60314	21.236	0.135	2996.60511	4.970	1.214	42.522	42.123	B
(55637) 2002 UX25	2996.60819	19.172	0.159	2996.61016	2.906	1.214	42.522	42.123	I
				#					
(20000) Varuna	3370.74537	21.288	0.151	3370.74537	4.978	0.131	43.248	42.270	B
(20000) Varuna	3370.75023	20.474	0.173	3370.75023	4.164	0.131	43.248	42.270	V
(20000) Varuna	3370.75233	19.129	0.088	3370.75233	2.819	0.131	43.248	42.270	I
(20000) Varuna	3372.64770	21.252	0.054	3372.64771	4.942	0.092	43.249	42.267	B
(20000) Varuna	3372.65256	19.995	0.068	3372.65257	3.685	0.092	43.249	42.267	V
(20000) Varuna	3372.65467	18.933	0.071	3372.65468	2.623	0.092	43.249	42.267	I

(20000) Varuna	3374.63803	21.045	0.060	3374.63805	4.735	0.061	43.249	42.267	B
(20000) Varuna	3374.64288	19.965	0.075	3374.64290	3.655	0.061	43.249	42.267	V
(20000) Varuna	3374.64498	18.957	0.089	3374.64500	2.647	0.061	43.249	42.267	I
(20000) Varuna	3376.67231	21.016	0.043	3376.67233	4.706	0.058	43.249	42.267	B
(20000) Varuna	3376.67717	20.247	0.084	3376.67719	3.937	0.058	43.249	42.267	V
(20000) Varuna	3376.67928	18.969	0.069	3376.67930	2.659	0.058	43.249	42.267	I
(20000) Varuna	3382.65440	21.277	0.058	3382.65437	4.967	0.170	43.250	42.275	B
(20000) Varuna	3382.65925	20.442	0.096	3382.65922	4.132	0.170	43.250	42.275	V
(20000) Varuna	3382.66135	19.126	0.134	3382.66132	2.816	0.170	43.250	42.275	I
(20000) Varuna	3384.65412	21.207	0.070	3384.65406	4.896	0.214	43.250	42.280	B
(20000) Varuna	3384.65897	20.331	0.099	3384.65891	4.020	0.215	43.250	42.281	V
(20000) Varuna	3384.66107	18.924	0.077	3384.66101	2.613	0.215	43.250	42.281	I
(20000) Varuna	3386.66026	21.099	0.040	3386.66016	4.788	0.260	43.250	42.287	B
(20000) Varuna	3386.66511	20.226	0.063	3386.66501	3.915	0.260	43.250	42.287	V
(20000) Varuna	3386.66722	19.029	0.063	3386.66712	2.718	0.260	43.250	42.287	I
(20000) Varuna	3399.62809	21.038	0.099	3399.62758	4.723	0.547	43.252	42.358	B
(20000) Varuna	3399.63294	20.025	0.105	3399.63243	3.710	0.547	43.252	42.358	V
(20000) Varuna	3399.63503	18.925	0.070	3399.63452	2.610	0.547	43.252	42.358	I
(20000) Varuna	3402.65069	21.313	0.072	3402.65004	4.997	0.611	43.253	42.382	B
(20000) Varuna	3402.65613	20.297	0.093	3402.65548	3.981	0.611	43.253	42.382	V
(20000) Varuna	3402.65821	19.050	0.065	3402.65756	2.734	0.611	43.253	42.382	I
(20000) Varuna	3404.63482	21.343	0.055	3404.63408	5.026	0.652	43.253	42.398	B
(20000) Varuna	3404.63966	20.330	0.084	3404.63892	4.013	0.652	43.253	42.399	V
(20000) Varuna	3404.64176	18.988	0.071	3404.64102	2.671	0.652	43.253	42.399	I
(20000) Varuna	3406.64153	20.963	0.038	3406.64068	4.645	0.692	43.253	42.417	B
(20000) Varuna	3406.64850	18.881	0.058	3406.64765	2.563	0.692	43.253	42.417	I
(20000) Varuna	3408.64232	21.058	0.045	3408.64136	4.739	0.732	43.253	42.436	B
(20000) Varuna	3408.64718	20.180	0.077	3408.64622	3.861	0.732	43.253	42.436	V
(20000) Varuna	3408.64929	19.061	0.078	3408.64833	2.742	0.732	43.253	42.436	I
(20000) Varuna	3410.62123	20.996	0.039	3410.62016	4.676	0.770	43.254	42.455	B
(20000) Varuna	3410.62608	20.078	0.066	3410.62501	3.758	0.770	43.254	42.455	V
(20000) Varuna	3410.62818	18.904	0.062	3410.62711	2.584	0.770	43.254	42.455	I
(20000) Varuna	3413.60831	21.457	0.061	3413.60705	5.136	0.826	43.254	42.487	B
(20000) Varuna	3413.61316	20.702	0.113	3413.61190	4.381	0.826	43.254	42.487	V
(20000) Varuna	3413.61527	19.146	0.081	3413.61401	2.825	0.826	43.254	42.487	I
(20000) Varuna	3415.59691	21.284	0.052	3415.59552	4.961	0.861	43.254	42.510	B
(20000) Varuna	3415.60177	20.479	0.084	3415.60038	4.156	0.861	43.254	42.510	V
(20000) Varuna	3415.60387	19.026	0.067	3415.60248	2.703	0.862	43.254	42.510	I
(20000) Varuna	3427.57984	21.090	0.153	3427.57757	4.760	1.053	43.256	42.662	B
(20000) Varuna	3427.58678	19.521	0.153	3427.58451	3.191	1.053	43.256	42.662	I
(20000) Varuna	3429.55001	21.418	0.095	3429.54758	5.086	1.080	43.256	42.690	B
(20000) Varuna	3429.55487	20.499	0.127	3429.55244	4.167	1.080	43.256	42.690	V
(20000) Varuna	3429.55697	19.252	0.120	3429.55454	2.920	1.080	43.256	42.690	I
(20000) Varuna	3431.55839	21.602	0.065	3431.55579	5.269	1.106	43.256	42.719	B
(20000) Varuna	3431.56324	20.618	0.096	3431.56064	4.285	1.106	43.256	42.719	V
(20000) Varuna	3431.56535	19.411	0.106	3431.56275	3.078	1.106	43.256	42.719	I
(20000) Varuna	3433.55058	21.375	0.063	3433.54781	5.040	1.131	43.257	42.748	B
(20000) Varuna	3433.55543	20.501	0.100	3433.55266	4.166	1.131	43.257	42.749	V
(20000) Varuna	3433.55754	19.077	0.077	3433.55477	2.742	1.131	43.257	42.749	I
(20000) Varuna	3435.54759	21.520	0.064	3435.54465	5.184	1.154	43.257	42.779	B

(20000) Varuna	3435.55244	20.595	0.101	3435.54950	4.259	1.154	43.257	42.779	V
(20000) Varuna	3435.55454	19.330	0.104	3435.55160	2.994	1.154	43.257	42.779	I
(20000) Varuna	3442.51511	21.604	0.124	3442.51154	5.262	1.224	43.258	42.888	B
(20000) Varuna	3442.51996	20.441	0.142	3442.51639	4.099	1.224	43.258	42.888	V
(20000) Varuna	3442.52206	19.538	0.183	3442.51849	3.196	1.224	43.258	42.888	I
(20000) Varuna	3444.52497	21.605	0.099	3444.52121	5.261	1.241	43.258	42.920	B
(20000) Varuna	3444.52982	20.548	0.137	3444.52606	4.204	1.241	43.258	42.921	V
(20000) Varuna	3450.52957	21.184	0.207	3450.52524	4.835	1.282	43.259	43.020	B
(20000) Varuna	3450.53442	19.994	0.203	3450.53009	3.645	1.282	43.259	43.020	V
(20000) Varuna	3450.53651	19.009	0.161	3450.53218	2.660	1.282	43.259	43.020	I
(20000) Varuna	3458.50093	21.498	0.105	3458.49581	5.142	1.315	43.260	43.156	B
(20000) Varuna	3458.50567	20.700	0.195	3458.50055	4.344	1.315	43.260	43.156	V
(20000) Varuna	3458.50767	19.625	0.155	3458.50255	3.269	1.315	43.260	43.156	I
(20000) Varuna	3460.49488	21.539	0.108	3460.48956	5.182	1.320	43.260	43.190	B
(20000) Varuna	3460.49966	20.839	0.177	3460.49434	4.482	1.320	43.260	43.190	V
(20000) Varuna	3460.50168	19.502	0.128	3460.49636	3.145	1.320	43.260	43.190	I
(20000) Varuna	3464.49919	21.354	0.090	3464.49348	4.993	1.324	43.261	43.259	B
(20000) Varuna	3464.50397	20.385	0.156	3464.49826	4.024	1.324	43.261	43.259	V
(20000) Varuna	3464.50599	19.169	0.117	3464.50028	2.808	1.324	43.261	43.259	I
(20000) Varuna	3478.46983	21.278	0.256	3478.46274	4.905	1.290	43.263	43.498	B
(20000) Varuna	3478.47463	20.559	0.237	3478.46754	4.186	1.290	43.263	43.498	V
(20000) Varuna	3478.47666	19.262	0.141	3478.46957	2.889	1.290	43.263	43.498	I
				#					
Nereid	2729.88826	19.886	0.118	2729.88826	5.070	1.607	30.049	30.573	B
Nereid	2729.89056	18.960	0.267	2729.89056	4.144	1.607	30.049	30.573	I
Nereid	2731.90654	19.860	0.122	2731.90670	5.046	1.641	30.050	30.544	B
Nereid	2731.90884	18.792	0.190	2731.90900	3.978	1.641	30.050	30.544	I
Nereid	2749.92913	20.018	0.419	2749.93086	5.223	1.865	30.062	30.273	V
Nereid	2751.88279	19.601	0.197	2751.88470	4.808	1.879	30.063	30.242	V
Nereid	2751.88415	19.767	0.225	2751.88606	4.974	1.879	30.063	30.242	V
Nereid	2751.88660	20.382	0.166	2751.88851	5.589	1.879	30.063	30.242	B
Nereid	2751.88889	18.724	0.226	2751.89080	3.931	1.879	30.063	30.242	I
Nereid	2755.88941	19.965	0.136	2755.89168	5.176	1.902	30.067	30.179	V
Nereid	2755.89077	19.839	0.121	2755.89304	5.050	1.902	30.067	30.179	V
Nereid	2755.89321	20.441	0.102	2755.89548	5.652	1.902	30.067	30.179	B
Nereid	2755.89550	19.199	0.233	2755.89777	4.410	1.902	30.067	30.179	I
Nereid	2757.89371	19.977	0.159	2757.89617	5.190	1.910	30.070	30.148	V
Nereid	2757.89507	20.066	0.155	2757.89753	5.279	1.910	30.070	30.148	V
Nereid	2757.89752	20.513	0.072	2757.89998	5.726	1.910	30.070	30.147	B
Nereid	2759.91070	19.927	0.104	2759.91334	5.142	1.916	30.072	30.116	V
Nereid	2759.91450	20.383	0.056	2759.91714	5.598	1.916	30.072	30.116	B
Nereid	2759.91679	19.189	0.202	2759.91943	4.404	1.917	30.072	30.116	I
Nereid	2763.77658	19.845	0.121	2763.77957	5.064	1.922	30.078	30.056	V
Nereid	2763.77793	19.679	0.100	2763.78092	4.898	1.922	30.078	30.056	V
Nereid	2763.78038	20.489	0.076	2763.78337	5.708	1.922	30.078	30.056	B
Nereid	2763.78267	19.026	0.235	2763.78566	4.245	1.922	30.078	30.056	I
Nereid	2765.83174	19.682	0.116	2765.83491	4.903	1.922	30.081	30.024	V
Nereid	2765.83555	20.216	0.062	2765.83872	5.437	1.922	30.081	30.024	B
Nereid	2765.83784	18.839	0.190	2765.84101	4.060	1.922	30.081	30.024	I
Nereid	2771.79400	19.377	0.140	2771.79770	4.604	1.907	30.089	29.932	V

Nereid	2771.79535	19.252	0.117	2771.79905	4.479	1.907	30.089	29.932	V
Nereid	2771.79780	19.723	0.124	2771.80150	4.950	1.907	30.089	29.932	B
Nereid	2771.80009	19.081	0.373	2771.80379	4.308	1.907	30.089	29.932	I
Nereid	2778.85358	19.323	0.238	2778.85793	4.558	1.865	30.094	29.820	V
Nereid	2778.85494	19.423	0.281	2778.85929	4.658	1.865	30.094	29.820	V
Nereid	2778.85739	19.716	0.171	2778.86174	4.951	1.865	30.094	29.820	B
Nereid	2778.85968	19.057	0.380	2778.86403	4.292	1.865	30.094	29.819	I
Nereid	2787.86322	19.330	0.091	2787.86840	4.576	1.774	30.094	29.676	V
Nereid	2787.86457	19.444	0.081	2787.86975	4.690	1.774	30.094	29.676	V
Nereid	2787.86702	20.106	0.049	2787.87220	5.352	1.774	30.094	29.676	B
Nereid	2787.86931	18.853	0.159	2787.87449	4.099	1.774	30.094	29.676	I
Nereid	2789.85778	19.845	0.140	2789.86314	5.093	1.748	30.093	29.645	V
Nereid	2789.85914	19.404	0.100	2789.86450	4.652	1.748	30.093	29.645	V
Nereid	2789.86159	19.990	0.063	2789.86695	5.238	1.748	30.093	29.645	B
Nereid	2789.86388	18.632	0.185	2789.86924	3.880	1.748	30.093	29.645	I
Nereid	2791.85558	19.617	0.097	2791.86112	4.867	1.720	30.093	29.614	V
Nereid	2791.85694	19.650	0.098	2791.86248	4.900	1.719	30.093	29.614	V
Nereid	2791.85938	20.090	0.106	2791.86492	5.340	1.719	30.093	29.614	B
Nereid	2791.86167	18.631	0.136	2791.86721	3.881	1.719	30.093	29.614	I
Nereid	2793.89984	19.512	0.199	2793.90556	4.765	1.689	30.092	29.583	V
Nereid	2793.90120	19.491	0.162	2793.90692	4.744	1.689	30.092	29.583	V
Nereid	2793.90365	19.971	0.077	2793.90937	5.224	1.689	30.092	29.583	B
Nereid	2793.90594	18.507	0.237	2793.91166	3.760	1.689	30.092	29.583	I
Nereid	2804.90091	18.869	0.233	2804.90753	4.133	1.488	30.089	29.427	V
Nereid	2817.89530	19.391	0.096	2817.90282	4.667	1.183	30.084	29.270	V
Nereid	2817.89666	19.382	0.106	2817.90418	4.658	1.183	30.084	29.270	V
Nereid	2817.89911	20.113	0.069	2817.90663	5.389	1.183	30.084	29.270	B
Nereid	2817.90140	18.650	0.202	2817.90892	3.926	1.183	30.084	29.270	I
Nereid	2819.86645	19.465	0.086	2819.87409	4.743	1.131	30.083	29.250	V
Nereid	2819.86781	19.539	0.091	2819.87545	4.817	1.131	30.083	29.250	V
Nereid	2819.87025	20.160	0.052	2819.87789	5.438	1.131	30.083	29.250	B
Nereid	2819.87254	18.639	0.158	2819.88018	3.917	1.131	30.083	29.250	I
Nereid	2821.85577	19.221	0.198	2821.86352	4.500	1.078	30.082	29.230	V
Nereid	2821.85713	19.275	0.174	2821.86488	4.554	1.078	30.082	29.230	V
Nereid	2821.85957	19.893	0.112	2821.86732	5.172	1.077	30.082	29.230	B
Nereid	2821.86186	18.230	0.236	2821.86961	3.509	1.077	30.082	29.230	I
Nereid	2829.88483	19.247	0.092	2829.89299	4.532	0.848	30.079	29.160	V
Nereid	2829.88619	19.412	0.114	2829.89435	4.697	0.848	30.079	29.160	V
Nereid	2829.88863	19.944	0.070	2829.89679	5.229	0.848	30.079	29.160	B
Nereid	2829.89092	18.331	0.193	2829.89908	3.616	0.848	30.079	29.160	I
Nereid	2831.81892	19.405	0.150	2831.82716	4.691	0.790	30.078	29.146	V
Nereid	2831.82028	19.314	0.135	2831.82852	4.600	0.790	30.078	29.146	V
Nereid	2831.82273	20.161	0.126	2831.83097	5.447	0.790	30.078	29.146	B
Nereid	2831.82502	18.701	0.197	2831.83326	3.987	0.790	30.078	29.146	I
Nereid	2832.75756	19.432	0.168	2832.76584	4.718	0.762	30.078	29.139	V
Nereid	2832.75892	19.230	0.150	2832.76720	4.516	0.762	30.078	29.139	V
Nereid	2832.76137	19.989	0.142	2832.76965	5.275	0.762	30.078	29.139	B
Nereid	2832.76366	18.623	0.171	2832.77194	3.909	0.762	30.078	29.139	I
Nereid	2833.80230	19.083	0.293	2833.81062	4.370	0.730	30.077	29.132	V
Nereid	2833.80366	19.217	0.286	2833.81198	4.504	0.730	30.077	29.132	V

Nereid	2833.80610	20.025	0.336	2833.81442	5.312	0.730	30.077	29.132	B
Nereid	2833.80840	18.703	0.347	2833.81672	3.990	0.730	30.077	29.132	I
Nereid	2837.81653	18.790	0.250	2837.82499	4.079	0.605	30.076	29.108	V
Nereid	2837.81789	19.290	0.386	2837.82635	4.579	0.605	30.076	29.108	V
Nereid	2837.82033	19.351	0.185	2837.82879	4.640	0.605	30.076	29.108	B
Nereid	2837.82263	18.068	0.383	2837.83109	3.357	0.605	30.076	29.108	I
Nereid	2839.81048	19.248	0.118	2839.81900	4.538	0.542	30.075	29.097	V
Nereid	2839.81184	19.285	0.141	2839.82036	4.575	0.542	30.075	29.097	V
Nereid	2839.81429	20.011	0.117	2839.82281	5.301	0.542	30.075	29.097	B
Nereid	2839.81658	18.564	0.188	2839.82510	3.854	0.542	30.075	29.097	I
Nereid	2841.85964	19.086	0.118	2841.86822	4.376	0.477	30.074	29.088	V
Nereid	2841.86100	19.035	0.097	2841.86958	4.325	0.477	30.074	29.088	V
Nereid	2841.86344	19.750	0.075	2841.87202	5.040	0.477	30.074	29.088	B
Nereid	2841.86574	18.335	0.163	2841.87432	3.625	0.477	30.074	29.088	I
Nereid	2843.80130	19.337	0.083	2843.80992	4.628	0.414	30.074	29.080	V
Nereid	2843.80266	19.328	0.080	2843.81128	4.619	0.414	30.074	29.080	V
Nereid	2843.80511	19.993	0.055	2843.81373	5.284	0.414	30.074	29.080	B
Nereid	2843.80740	18.734	0.172	2843.81602	4.025	0.414	30.074	29.080	I
Nereid	2844.78792	19.112	0.069	2844.79656	4.403	0.382	30.073	29.076	V
Nereid	2844.78928	19.307	0.084	2844.79792	4.598	0.382	30.073	29.076	V
Nereid	2844.79173	19.954	0.047	2844.80037	5.245	0.382	30.073	29.076	B
Nereid	2844.79402	18.579	0.130	2844.80266	3.870	0.382	30.073	29.076	I
Nereid	2845.80261	19.247	0.074	2845.81127	4.539	0.349	30.073	29.073	V
Nereid	2845.80397	19.388	0.088	2845.81263	4.680	0.349	30.073	29.073	V
Nereid	2845.80641	19.765	0.045	2845.81507	5.057	0.349	30.073	29.072	B
Nereid	2845.80870	18.351	0.123	2845.81736	3.643	0.349	30.073	29.072	I
Nereid	2846.81332	19.271	0.161	2846.82200	4.563	0.316	30.072	29.069	V
Nereid	2846.81468	19.302	0.193	2846.82336	4.594	0.316	30.072	29.069	V
Nereid	2846.81713	19.837	0.106	2846.82581	5.129	0.316	30.072	29.069	B
Nereid	2846.81944	18.972	0.474	2846.82812	4.264	0.316	30.072	29.069	I
Nereid	2847.80421	19.261	0.111	2847.81291	4.553	0.284	30.072	29.067	V
Nereid	2847.80557	19.065	0.099	2847.81427	4.357	0.284	30.072	29.067	V
Nereid	2847.80803	19.753	0.066	2847.81673	5.045	0.283	30.072	29.067	B
Nereid	2847.81033	18.542	0.194	2847.81903	3.834	0.283	30.072	29.067	I
Nereid	2851.84076	19.172	0.043	2851.84951	4.465	0.150	30.070	29.058	V
Nereid	2851.84212	19.164	0.045	2851.85087	4.457	0.150	30.070	29.058	V
Nereid	2851.84458	19.738	0.043	2851.85333	5.031	0.150	30.070	29.058	B
Nereid	2851.84688	18.375	0.085	2851.85563	3.668	0.150	30.070	29.058	I
Nereid	2852.83791	19.114	0.043	2852.84667	4.407	0.117	30.070	29.057	V
Nereid	2852.83927	19.124	0.044	2852.84803	4.417	0.117	30.070	29.057	V
Nereid	2852.84172	19.798	0.027	2852.85048	5.091	0.117	30.070	29.057	B
Nereid	2852.84402	18.309	0.068	2852.85278	3.602	0.117	30.070	29.057	I
Nereid	2853.82273	19.079	0.038	2853.83149	4.372	0.085	30.070	29.056	V
Nereid	2853.82409	19.089	0.038	2853.83285	4.382	0.085	30.070	29.056	V
Nereid	2853.82654	19.801	0.022	2853.83530	5.094	0.085	30.070	29.056	B
Nereid	2853.82883	18.357	0.073	2853.83759	3.650	0.085	30.070	29.056	I
Nereid	2854.77191	19.029	0.035	2854.78068	4.322	0.053	30.069	29.055	V
Nereid	2854.77327	19.069	0.037	2854.78204	4.362	0.053	30.069	29.055	V
Nereid	2854.77803	18.292	0.060	2854.78680	3.585	0.053	30.069	29.055	I
Nereid	2855.53929	18.999	0.079	2855.54806	4.292	0.028	30.069	29.054	V

Nereid	2855.54065	19.029	0.077	2855.54942	4.322	0.028	30.069	29.054	V
Nereid	2855.54311	19.738	0.057	2855.55188	5.031	0.028	30.069	29.054	B
Nereid	2855.54541	18.323	0.118	2855.55418	3.616	0.028	30.069	29.054	I
Nereid	2856.68175	18.995	0.063	2856.69052	4.288	0.010	30.069	29.054	V
Nereid	2856.68311	19.073	0.068	2856.69188	4.366	0.010	30.069	29.054	V
Nereid	2856.68557	19.682	0.047	2856.69434	4.975	0.010	30.069	29.054	B
Nereid	2856.68787	18.284	0.097	2856.69664	3.577	0.010	30.069	29.054	I
Nereid	2856.84461	19.085	0.088	2856.85338	4.378	0.016	30.069	29.054	V
Nereid	2856.84597	18.957	0.080	2856.85474	4.250	0.016	30.069	29.054	V
Nereid	2856.84842	19.754	0.048	2856.85719	5.047	0.016	30.069	29.054	B
Nereid	2856.85073	18.380	0.124	2856.85950	3.673	0.016	30.069	29.054	I
Nereid	2857.56725	19.019	0.049	2857.57602	4.312	0.040	30.068	29.054	V
Nereid	2857.56970	19.672	0.035	2857.57847	4.965	0.040	30.068	29.054	B
Nereid	2857.57200	18.340	0.064	2857.58077	3.633	0.040	30.068	29.054	I
Nereid	2857.60493	19.367	0.056	2857.61370	4.660	0.041	30.068	29.054	V
Nereid	2857.60629	19.343	0.045	2857.61506	4.636	0.041	30.068	29.054	V
Nereid	2857.60885	19.764	0.033	2857.61762	5.057	0.041	30.068	29.054	B
Nereid	2857.61115	18.542	0.073	2857.61992	3.835	0.041	30.068	29.054	I
Nereid	2857.64950	19.090	0.044	2857.65827	4.383	0.042	30.068	29.054	V
Nereid	2857.65086	19.157	0.049	2857.65963	4.450	0.042	30.068	29.054	V
Nereid	2857.65331	19.691	0.029	2857.66208	4.984	0.042	30.068	29.054	B
Nereid	2857.65561	18.448	0.066	2857.66438	3.741	0.043	30.068	29.054	I
Nereid	2857.84347	19.151	0.052	2857.85224	4.444	0.049	30.068	29.054	V
Nereid	2857.84483	19.092	0.053	2857.85360	4.385	0.049	30.068	29.054	V
Nereid	2857.84728	19.744	0.029	2857.85605	5.037	0.049	30.068	29.054	B
Nereid	2857.84959	18.372	0.085	2857.85836	3.665	0.049	30.068	29.054	I
Nereid	2858.54017	18.954	0.049	2858.54894	4.247	0.072	30.068	29.055	V
Nereid	2858.54154	19.102	0.053	2858.55031	4.395	0.072	30.068	29.055	V
Nereid	2858.54399	19.724	0.039	2858.55276	5.017	0.072	30.068	29.055	B
Nereid	2858.54629	18.391	0.071	2858.55506	3.684	0.072	30.068	29.055	I
Nereid	2858.67303	19.178	0.044	2858.68180	4.471	0.076	30.068	29.055	V
Nereid	2858.67439	19.128	0.042	2858.68316	4.421	0.076	30.068	29.055	V
Nereid	2858.67685	19.763	0.032	2858.68562	5.056	0.076	30.068	29.055	B
Nereid	2858.67914	18.555	0.063	2858.68791	3.848	0.077	30.068	29.055	I
Nereid	2858.81763	19.146	0.037	2858.82640	4.439	0.081	30.068	29.055	V
Nereid	2858.81899	19.167	0.038	2858.82776	4.460	0.081	30.068	29.055	V
Nereid	2858.82145	19.751	0.021	2858.83022	5.044	0.081	30.068	29.055	B
Nereid	2858.82375	18.513	0.076	2858.83252	3.806	0.081	30.068	29.055	I
Nereid	2859.80034	19.139	0.071	2859.80910	4.432	0.114	30.067	29.055	V
Nereid	2859.80170	19.094	0.066	2859.81046	4.387	0.114	30.067	29.055	V
Nereid	2859.80415	19.646	0.046	2859.81291	4.939	0.114	30.067	29.055	B
Nereid	2859.80645	18.366	0.093	2859.81521	3.659	0.114	30.067	29.055	I
Nereid	2860.78834	19.039	0.057	2860.79710	4.332	0.146	30.067	29.056	V
Nereid	2860.78970	19.119	0.066	2860.79846	4.412	0.146	30.067	29.056	V
Nereid	2860.79215	19.889	0.056	2860.80091	5.182	0.147	30.067	29.056	B
Nereid	2860.79445	18.361	0.071	2860.80321	3.654	0.147	30.067	29.056	I
Nereid	2862.77246	19.106	0.169	2862.78120	4.399	0.212	30.066	29.059	V
Nereid	2862.77382	19.042	0.160	2862.78256	4.335	0.212	30.066	29.059	V
Nereid	2862.77627	19.731	0.118	2862.78501	5.024	0.212	30.066	29.059	B
Nereid	2862.77857	18.488	0.220	2862.78731	3.781	0.212	30.066	29.059	I

Nereid	2865.78342	19.177	0.227	2865.79212	4.470	0.311	30.065	29.066	V
Nereid	2865.78481	18.911	0.201	2865.79351	4.204	0.311	30.065	29.066	V
Nereid	2865.78730	19.459	0.125	2865.79600	4.752	0.311	30.065	29.066	B
Nereid	2865.78964	18.663	0.336	2865.79834	3.956	0.311	30.065	29.066	I
Nereid	2866.74291	19.156	0.121	2866.75160	4.449	0.342	30.065	29.068	V
Nereid	2866.74430	19.339	0.116	2866.75299	4.632	0.342	30.065	29.068	V
Nereid	2866.74680	19.903	0.110	2866.75549	5.196	0.342	30.065	29.068	B
Nereid	2866.74913	18.336	0.154	2866.75782	3.629	0.343	30.065	29.068	I
Nereid	2867.72715	19.253	0.065	2867.73582	4.545	0.374	30.065	29.071	V
Nereid	2867.72851	19.205	0.060	2867.73718	4.497	0.374	30.065	29.071	V
Nereid	2867.73097	19.945	0.052	2867.73964	5.237	0.375	30.065	29.071	B
Nereid	2867.73327	18.584	0.079	2867.74194	3.876	0.375	30.065	29.071	I
Nereid	2868.70552	19.325	0.049	2868.71417	4.617	0.406	30.064	29.074	V
Nereid	2868.70688	19.391	0.050	2868.71553	4.683	0.406	30.064	29.074	V
Nereid	2868.70933	19.944	0.042	2868.71798	5.236	0.406	30.064	29.074	B
Nereid	2868.71163	18.635	0.074	2868.72028	3.927	0.406	30.064	29.074	I
Nereid	2869.71278	19.321	0.076	2869.72141	4.613	0.439	30.064	29.078	V
Nereid	2869.71414	19.285	0.057	2869.72277	4.577	0.439	30.064	29.078	V
Nereid	2869.71659	20.017	0.040	2869.72522	5.309	0.439	30.064	29.078	B
Nereid	2869.71889	18.406	0.107	2869.72752	3.698	0.439	30.064	29.078	I
Nereid	2871.73535	19.238	0.061	2871.74394	4.529	0.504	30.063	29.086	V
Nereid	2871.73670	19.277	0.085	2871.74529	4.568	0.504	30.063	29.086	V
Nereid	2871.73916	19.763	0.050	2871.74775	5.054	0.504	30.063	29.086	B
Nereid	2871.74147	18.616	0.144	2871.75006	3.907	0.504	30.063	29.086	I
Nereid	2872.69428	19.151	0.318	2872.70284	4.442	0.534	30.063	29.090	V
Nereid	2872.69567	19.501	0.331	2872.70423	4.792	0.535	30.063	29.090	V
Nereid	2872.69816	20.231	0.181	2872.70672	5.522	0.535	30.063	29.090	B
Nereid	3506.86357	19.570	0.023	3506.86734	4.799	1.910	30.077	29.920	V
Nereid	3508.87995	19.563	0.021	3508.88391	4.794	1.901	30.077	29.887	V
Nereid	3511.86633	19.526	0.018	3511.87058	4.761	1.883	30.077	29.837	V
Nereid	3515.86051	19.559	0.039	3515.86514	4.799	1.852	30.076	29.771	V
Nereid	3517.86826	19.362	0.046	3517.87308	4.604	1.833	30.075	29.738	V
Nereid	3521.85514	19.441	0.047	3521.86033	4.688	1.790	30.074	29.674	V
Nereid	3523.84658	19.425	0.155	3523.85195	4.674	1.765	30.074	29.642	V
Nereid	3525.83859	19.252	0.151	3525.84414	4.504	1.738	30.073	29.611	V
Nereid	3527.83547	19.182	0.142	3527.84120	4.436	1.709	30.073	29.581	V
Nereid	3529.82660	19.365	0.157	3529.83250	4.621	1.678	30.072	29.551	V
Nereid	3547.85135	19.525	0.045	3547.85865	4.800	1.314	30.066	29.308	V
Nereid	3547.85135	19.525	0.045	3547.85865	4.800	1.314	30.066	29.308	V
Nereid	3575.78693	19.309	0.035	3575.79558	4.602	0.515	30.056	29.074	V
Nereid	3586.59192	19.172	0.012	3586.60077	4.468	0.163	30.052	29.040	V
Nereid	3586.80013	19.178	0.011	3586.80898	4.474	0.156	30.052	29.040	V
Nereid	3587.84158	18.999	0.103	3587.85044	4.295	0.121	30.051	29.039	V
Nereid	3588.54083	18.752	0.108	3588.54969	4.048	0.098	30.051	29.038	V
Nereid	3588.82559	19.004	0.081	3588.83446	4.300	0.088	30.051	29.038	V
Nereid	3589.53756	19.116	0.016	3589.54643	4.412	0.065	30.051	29.037	V
Nereid	3589.85694	19.117	0.013	3589.86581	4.413	0.054	30.051	29.037	V
Nereid	3590.53516	19.049	0.011	3590.54403	4.345	0.032	30.050	29.037	V
Nereid	3590.85116	18.957	0.012	3590.86003	4.253	0.023	30.050	29.036	V
Nereid	3591.55444	19.066	0.017	3591.56331	4.362	0.006	30.050	29.036	V

Nereid	3591.82446	19.046	0.012	3591.83333	4.342	0.014	30.050	29.036	V
Nereid	3592.63274	19.130	0.010	3592.64161	4.426	0.039	30.050	29.036	V
Nereid	3592.83996	19.106	0.012	3592.84883	4.402	0.045	30.050	29.036	V
Nereid	3593.67382	19.167	0.010	3593.68269	4.463	0.073	30.049	29.037	V
Nereid	3593.82185	19.167	0.014	3593.83072	4.463	0.078	30.049	29.037	V
Nereid	3594.56794	19.189	0.014	3594.57681	4.485	0.103	30.049	29.037	V
Nereid	3594.80889	19.136	0.039	3594.81776	4.432	0.111	30.049	29.038	V
Nereid	3603.80141	19.270	0.052	3603.81016	4.565	0.407	30.046	29.057	V
Nereid	3607.74360	19.319	0.016	3607.75226	4.613	0.533	30.045	29.073	V
Nereid	3619.71711	19.373	0.014	3619.72534	4.661	0.901	30.041	29.148	V
Nereid	3621.67315	19.437	0.013	3621.68128	4.724	0.957	30.040	29.164	V
Nereid	3626.63859	19.184	0.138	3626.64646	4.468	1.096	30.039	29.209	V
Nereid	3629.69564	19.274	0.125	3629.70334	4.556	1.177	30.038	29.240	V
Nereid	3631.61633	19.407	0.046	3631.62391	4.687	1.226	30.037	29.261	V
Nereid	3635.64865	19.396	0.052	3635.65597	4.673	1.325	30.036	29.306	V
Nereid	3639.60743	19.489	0.012	3639.61447	4.762	1.415	30.035	29.354	V
Nereid	3642.66905	19.460	0.027	3642.67586	4.731	1.480	30.034	29.394	V
Nereid	3644.60862	19.447	0.074	3644.61528	4.716	1.519	30.034	29.419	V
Nereid	3650.60186	19.260	0.228	3650.60803	4.523	1.629	30.032	29.504	V
Nereid	3653.54624	19.548	0.238	3653.55216	4.808	1.676	30.031	29.547	V
Nereid	3655.61127	19.507	0.247	3655.61701	4.764	1.706	30.031	29.578	V
Nereid	3656.57414	19.526	0.267	3656.57980	4.782	1.720	30.031	29.593	V
Nereid	3661.59402	19.483	0.252	3661.59922	4.734	1.782	30.029	29.672	V
Nereid	3662.55658	19.437	0.070	3662.56169	4.686	1.792	30.029	29.687	V
Nereid	3665.56843	19.574	0.026	3665.57326	4.820	1.821	30.028	29.736	V
Nereid	3668.53941	19.481	0.019	3668.54396	4.723	1.845	30.028	29.785	V
Nereid	3670.52067	19.214	0.016	3670.52503	4.454	1.858	30.027	29.818	V
				#					
(119951) 2002 KX14	3067.76745	21.050	0.152	3067.76745	5.080	1.394	39.661	39.415	V
(119951) 2002 KX14	3067.77027	19.927	0.108	3067.77027	3.957	1.394	39.661	39.415	I
(119951) 2002 KX14	3067.81062	21.212	0.104	3067.81062	5.242	1.393	39.661	39.414	V
(119951) 2002 KX14	3067.81343	19.774	0.078	3067.81343	3.804	1.393	39.661	39.414	I
(119951) 2002 KX14	3071.78036	20.588	0.182	3071.78075	4.622	1.368	39.661	39.347	V
(119951) 2002 KX14	3071.78317	19.635	0.098	3071.78356	3.669	1.368	39.661	39.347	I
(119951) 2002 KX14	3071.82734	20.805	0.188	3071.82773	4.839	1.368	39.661	39.347	V
(119951) 2002 KX14	3071.83015	19.673	0.101	3071.83054	3.707	1.368	39.661	39.347	I
(119951) 2002 KX14	3077.75433	20.919	0.189	3077.75528	4.958	1.318	39.660	39.250	V
(119951) 2002 KX14	3077.75715	20.127	0.177	3077.75810	4.166	1.318	39.660	39.250	I
(119951) 2002 KX14	3077.80296	20.931	0.169	3077.80392	4.970	1.317	39.660	39.249	V
(119951) 2002 KX14	3077.80578	19.991	0.142	3077.80674	4.030	1.317	39.660	39.249	I
(119951) 2002 KX14	3081.75452	21.087	0.089	3081.75584	5.130	1.276	39.660	39.187	V
(119951) 2002 KX14	3081.75734	19.877	0.080	3081.75866	3.920	1.276	39.660	39.187	I
(119951) 2002 KX14	3081.79540	20.936	0.081	3081.79672	4.979	1.276	39.660	39.186	V
(119951) 2002 KX14	3081.79821	19.989	0.097	3081.79953	4.032	1.276	39.660	39.186	I
(119951) 2002 KX14	3089.77181	21.047	0.090	3089.77381	5.096	1.173	39.659	39.068	V
(119951) 2002 KX14	3089.77463	19.746	0.074	3089.77663	3.795	1.173	39.659	39.068	I
(119951) 2002 KX14	3089.81072	20.927	0.078	3089.81273	4.976	1.173	39.659	39.067	V
(119951) 2002 KX14	3089.81354	19.946	0.085	3089.81555	3.995	1.173	39.659	39.067	I
(119951) 2002 KX14	3097.66190	21.245	0.290	3097.66452	5.300	1.050	39.658	38.962	V
(119951) 2002 KX14	3097.66471	19.940	0.143	3097.66733	3.995	1.050	39.658	38.962	I

(119951) 2002 KX14	3097.70130	21.226	0.221	3097.70392	5.281	1.049	39.658	38.961	V
(119951) 2002 KX14	3097.70412	19.792	0.111	3097.70674	3.847	1.049	39.658	38.961	I
(119951) 2002 KX14	3101.70356	19.973	0.227	3101.70646	4.031	0.978	39.658	38.912	I
(119951) 2002 KX14	3101.73573	20.139	0.236	3101.73864	4.197	0.978	39.658	38.912	I
(119951) 2002 KX14	3105.71752	20.841	0.160	3105.72069	4.901	0.903	39.658	38.866	V
(119951) 2002 KX14	3105.72034	19.391	0.081	3105.72351	3.451	0.903	39.658	38.866	I
(119951) 2002 KX14	3105.76024	19.882	0.138	3105.76341	3.943	0.902	39.658	38.866	I
(119951) 2002 KX14	3109.62033	20.929	0.116	3109.62373	4.992	0.825	39.657	38.826	V
(119951) 2002 KX14	3109.62341	19.577	0.084	3109.62681	3.640	0.825	39.657	38.826	I
(119951) 2002 KX14	3109.65897	21.070	0.106	3109.66238	5.133	0.824	39.657	38.825	V
(119951) 2002 KX14	3109.66178	19.592	0.085	3109.66519	3.655	0.824	39.657	38.825	I
(119951) 2002 KX14	3114.67664	20.803	0.076	3114.68032	4.868	0.718	39.657	38.778	V
(119951) 2002 KX14	3114.67940	19.778	0.078	3114.68308	3.843	0.718	39.657	38.778	I
(119951) 2002 KX14	3114.72142	20.934	0.085	3114.72510	4.999	0.717	39.657	38.778	V
(119951) 2002 KX14	3114.72418	19.667	0.069	3114.72786	3.732	0.717	39.657	38.778	I
(119951) 2002 KX14	3132.64762	20.782	0.262	3132.65195	4.854	0.299	39.655	38.666	V
(119951) 2002 KX14	3132.65054	19.499	0.161	3132.65487	3.571	0.299	39.655	38.666	I
(119951) 2002 KX14	3132.71380	20.483	0.169	3132.71813	4.555	0.297	39.655	38.666	V
(119951) 2002 KX14	3132.71730	19.645	0.157	3132.72163	3.717	0.297	39.655	38.666	I
(119951) 2002 KX14	3140.61616	20.705	0.062	3140.62060	4.778	0.101	39.654	38.645	V
(119951) 2002 KX14	3140.61892	19.501	0.063	3140.62336	3.574	0.101	39.654	38.645	I
(119951) 2002 KX14	3140.66358	20.883	0.078	3140.66802	4.956	0.100	39.654	38.645	V
(119951) 2002 KX14	3140.66634	19.583	0.073	3140.67078	3.656	0.100	39.654	38.645	I
(119951) 2002 KX14	3151.65431	20.758	0.074	3151.65874	4.831	0.176	39.653	38.648	V
(119951) 2002 KX14	3160.54403	19.134	0.173	3160.54830	3.205	0.394	39.652	38.676	I
(119951) 2002 KX14	3164.58859	20.988	0.063	3164.59274	5.058	0.491	39.652	38.696	V
(119951) 2002 KX14	3164.59134	19.733	0.063	3164.59549	3.803	0.491	39.652	38.696	I
(119951) 2002 KX14	3164.62510	21.005	0.074	3164.62925	5.075	0.492	39.652	38.696	V
(119951) 2002 KX14	3164.62786	19.685	0.063	3164.63201	3.755	0.492	39.652	38.696	I
(119951) 2002 KX14	3182.62538	20.850	0.096	3182.62871	4.913	0.886	39.650	38.837	V
(119951) 2002 KX14	3182.62814	19.743	0.081	3182.63147	3.806	0.886	39.650	38.837	I
(119951) 2002 KX14	3182.66648	21.110	0.134	3182.66981	5.172	0.887	39.650	38.838	V
(119951) 2002 KX14	3182.66924	19.856	0.091	3182.67257	3.918	0.887	39.650	38.838	I
(119951) 2002 KX14	3201.58532	21.029	0.089	3201.58733	5.079	1.209	39.648	39.066	V
(119951) 2002 KX14	3201.58808	19.669	0.082	3201.59009	3.719	1.209	39.648	39.067	I
(119951) 2002 KX14	3211.51723	21.183	0.270	3211.51841	5.225	1.330	39.647	39.211	V
(119951) 2002 KX14	3211.52000	19.896	0.159	3211.52117	3.938	1.330	39.647	39.211	I
				#					
2004 TY364	3292.71981	21.426	0.059	3292.71981	5.480	0.547	39.783	38.856	B
2004 TY364	3292.72397	20.422	0.097	3292.72397	4.476	0.547	39.783	38.856	V
2004 TY364	3292.72607	19.388	0.106	3292.72607	3.442	0.547	39.783	38.856	I
2004 TY364	3294.69541	21.408	0.047	3294.69541	5.462	0.552	39.783	38.856	B
2004 TY364	3294.69957	20.478	0.080	3294.69957	4.532	0.552	39.783	38.856	V
2004 TY364	3294.70168	19.291	0.065	3294.70168	3.345	0.552	39.783	38.856	I
2004 TY364	3296.70439	21.591	0.049	3296.70438	5.645	0.559	39.782	38.858	B
2004 TY364	3296.70855	20.639	0.082	3296.70854	4.693	0.559	39.782	38.858	V
2004 TY364	3296.71066	19.434	0.071	3296.71065	3.488	0.559	39.782	38.858	I
2004 TY364	3301.66835	21.331	0.118	3301.66828	5.385	0.593	39.779	38.868	B
2004 TY364	3301.67250	20.360	0.123	3301.67243	4.414	0.593	39.779	38.868	V
2004 TY364	3301.67461	19.512	0.097	3301.67454	3.566	0.593	39.779	38.868	I

2004 TY364	3306.65739	21.749	0.117	3306.65723	5.802	0.645	39.777	38.885	B
2004 TY364	3306.66155	20.514	0.177	3306.66139	4.567	0.645	39.777	38.885	V
2004 TY364	3306.66365	19.183	0.181	3306.66349	3.236	0.645	39.777	38.885	I
2004 TY364	3308.66153	21.367	0.152	3308.66132	5.420	0.670	39.776	38.893	B
2004 TY364	3308.66569	20.667	0.212	3308.66548	4.720	0.670	39.776	38.893	V
2004 TY364	3310.62597	21.270	0.061	3310.62571	5.322	0.696	39.775	38.902	B
2004 TY364	3310.63013	20.467	0.090	3310.62987	4.519	0.696	39.775	38.902	V
2004 TY364	3310.63223	19.328	0.092	3310.63197	3.380	0.696	39.775	38.902	I
2004 TY364	3324.61499	21.593	0.046	3324.61417	5.640	0.907	39.769	38.998	B
2004 TY364	3324.61916	20.620	0.079	3324.61834	4.667	0.907	39.769	38.998	V
2004 TY364	3324.62127	19.379	0.068	3324.62045	3.426	0.907	39.769	38.998	I
2004 TY364	3328.58582	21.596	0.094	3328.58479	5.641	0.967	39.767	39.034	B
2004 TY364	3328.58997	20.453	0.102	3328.58894	4.498	0.967	39.767	39.034	V
2004 TY364	3328.59208	19.664	0.111	3328.59105	3.709	0.967	39.767	39.034	I
2004 TY364	3330.61266	21.579	0.150	3330.61152	5.623	0.999	39.766	39.053	B
2004 TY364	3330.61682	20.684	0.167	3330.61568	4.728	0.999	39.766	39.053	V
2004 TY364	3330.61893	19.877	0.161	3330.61779	3.921	0.999	39.766	39.053	I
2004 TY364	3332.57859	21.281	0.240	3332.57733	5.324	1.028	39.765	39.074	B
2004 TY364	3332.58484	19.767	0.397	3332.58358	3.810	1.028	39.765	39.074	I
2004 TY364	3335.64076	21.539	0.236	3335.63931	5.580	1.072	39.764	39.107	B
2004 TY364	3335.64492	20.443	0.211	3335.64347	4.484	1.072	39.764	39.107	V
2004 TY364	3335.64703	19.415	0.134	3335.64558	3.456	1.072	39.764	39.107	I
2004 TY364	3337.60719	21.617	0.173	3337.60562	5.657	1.100	39.763	39.128	B
2004 TY364	3337.61134	20.558	0.153	3337.60977	4.598	1.100	39.763	39.128	V
2004 TY364	3337.61344	19.557	0.114	3337.61187	3.597	1.100	39.763	39.128	I
2004 TY364	3339.57067	21.598	0.104	3339.56897	5.637	1.127	39.762	39.151	B
2004 TY364	3339.57482	20.723	0.141	3339.57312	4.762	1.127	39.762	39.151	V
2004 TY364	3339.57692	19.589	0.164	3339.57522	3.628	1.127	39.762	39.151	I
2004 TY364	3343.54815	21.520	0.063	3343.54617	5.556	1.178	39.760	39.200	B
2004 TY364	3343.55230	20.444	0.094	3343.55032	4.480	1.178	39.760	39.200	V
2004 TY364	3343.55441	19.687	0.116	3343.55243	3.723	1.178	39.760	39.200	I
2004 TY364	3345.57723	21.553	0.052	3345.57510	5.588	1.203	39.759	39.225	B
2004 TY364	3345.58138	20.716	0.093	3345.57925	4.751	1.203	39.759	39.225	V
2004 TY364	3345.58348	19.629	0.099	3345.58135	3.664	1.203	39.759	39.225	I
2004 TY364	3348.56328	21.551	0.051	3348.56092	5.584	1.237	39.758	39.264	B
2004 TY364	3348.56743	20.592	0.697	3348.56507	4.625	1.237	39.758	39.264	V
2004 TY364	3348.56953	19.826	0.109	3348.56717	3.859	1.237	39.758	39.264	I
2004 TY364	3351.60069	21.656	0.064	3351.59809	5.687	1.269	39.756	39.305	B
2004 TY364	3351.60069	21.656	0.064	3351.59809	5.687	1.269	39.756	39.305	B
2004 TY364	3351.60485	20.656	0.094	3351.60225	4.687	1.269	39.756	39.305	V
2004 TY364	3351.60695	19.706	0.104	3351.60435	3.737	1.269	39.756	39.305	I
2004 TY364	3353.55063	21.611	0.056	3353.54788	5.640	1.288	39.755	39.333	B
2004 TY364	3353.55479	20.749	0.092	3353.55204	4.778	1.288	39.755	39.333	V
2004 TY364	3353.55689	19.746	0.097	3353.55414	3.775	1.289	39.755	39.333	I
2004 TY364	3355.58185	21.608	0.060	3355.57893	5.636	1.307	39.755	39.361	B
2004 TY364	3355.58600	20.840	0.100	3355.58308	4.868	1.307	39.755	39.361	V
2004 TY364	3355.58810	19.660	0.088	3355.58518	3.688	1.307	39.755	39.361	I
2004 TY364	3357.55629	21.613	0.097	3357.55321	5.639	1.323	39.754	39.389	B
2004 TY364	3357.56044	20.737	0.121	3357.55736	4.763	1.323	39.754	39.389	V
2004 TY364	3357.56254	19.713	0.120	3357.55946	3.739	1.324	39.754	39.389	I

2004 TY364	3359.59716	21.498	0.155	3359.59391	5.523	1.339	39.753	39.419	B
2004 TY364	3359.60130	20.289	0.151	3359.59805	4.314	1.339	39.753	39.419	V
2004 TY364	3359.60340	19.473	0.160	3359.60015	3.498	1.339	39.753	39.419	I
2004 TY364	3361.59772	21.352	0.140	3361.59430	5.375	1.354	39.752	39.448	B
2004 TY364	3361.60189	20.765	0.202	3361.59847	4.788	1.354	39.752	39.449	V
2004 TY364	3361.60400	19.734	0.144	3361.60058	3.757	1.354	39.752	39.449	I
2004 TY364	3363.55361	21.637	0.246	3363.55002	5.658	1.366	39.751	39.478	B
2004 TY364	3363.55776	20.620	0.206	3363.55417	4.641	1.366	39.751	39.478	V
2004 TY364	3363.55985	19.831	0.160	3363.55626	3.852	1.366	39.751	39.478	I
2004 TY364	3367.55898	21.568	0.121	3367.55504	5.586	1.387	39.749	39.539	B
2004 TY364	3367.56313	20.799	0.204	3367.55919	4.817	1.387	39.749	39.539	V
2004 TY364	3367.56523	19.928	0.200	3367.56129	3.946	1.387	39.749	39.539	I
2004 TY364	3369.58614	21.756	0.062	3369.58202	5.773	1.395	39.748	39.570	B
2004 TY364	3369.59029	21.053	0.110	3369.58616	5.070	1.395	39.748	39.570	V
2004 TY364	3369.59240	19.733	0.107	3369.58827	3.750	1.395	39.748	39.570	I
2004 TY364	3371.53294	21.785	0.305	3371.52864	5.800	1.402	39.747	39.600	B
2004 TY364	3371.53708	20.586	0.165	3371.53278	4.601	1.402	39.747	39.601	V
2004 TY364	3371.53918	19.866	0.160	3371.53488	3.881	1.402	39.747	39.601	I
2004 TY364	3373.59586	21.583	0.101	3373.59138	5.596	1.408	39.746	39.632	B
2004 TY364	3373.60002	20.666	0.163	3373.59554	4.679	1.408	39.746	39.633	V
2004 TY364	3373.60212	19.649	0.131	3373.59764	3.662	1.408	39.746	39.633	I
2004 TY364	3375.57002	21.627	0.069	3375.56536	5.639	1.412	39.745	39.663	B
2004 TY364	3375.57416	20.741	0.104	3375.56950	4.753	1.412	39.745	39.663	V
2004 TY364	3375.57626	19.717	0.119	3375.57160	3.729	1.412	39.745	39.663	I
2004 TY364	3383.56898	21.812	0.081	3383.56359	5.817	1.413	39.742	39.789	B
2004 TY364	3385.56128	21.892	0.139	3385.55571	5.895	1.410	39.741	39.820	B
2004 TY364	3387.55178	21.447	0.157	3387.54603	5.449	1.405	39.740	39.851	B
2004 TY364	3387.55594	20.689	0.223	3387.55019	4.691	1.405	39.740	39.851	V
2004 TY364	3387.55804	19.667	0.193	3387.55229	3.669	1.405	39.740	39.851	I
2004 TY364	3394.56885	21.288	0.227	3394.56248	5.284	1.376	39.737	39.959	B
2004 TY364	3394.57300	20.301	0.200	3394.56663	4.297	1.376	39.737	39.959	V
2004 TY364	3394.57511	19.728	0.189	3394.56874	3.724	1.376	39.737	39.959	I
2004 TY364	3395.53600	21.261	0.191	3395.52955	5.256	1.370	39.736	39.974	B
2004 TY364	3395.54016	20.669	0.224	3395.53371	4.664	1.370	39.736	39.974	V
2004 TY364	3395.54226	19.616	0.139	3395.53581	3.611	1.370	39.736	39.974	I
				#					
(26375) 1999 DE9	3403.76605	21.555	0.095	3403.76616	6.179	0.858	34.907	34.065	B
(26375) 1999 DE9	3403.77126	20.514	0.088	3403.77137	5.138	0.858	34.907	34.065	V
(26375) 1999 DE9	3403.77407	19.391	0.064	3403.77418	4.015	0.857	34.907	34.065	I
(26375) 1999 DE9	3405.71294	21.620	0.051	3405.71314	6.245	0.809	34.909	34.049	B
(26375) 1999 DE9	3405.71813	20.604	0.059	3405.71833	5.229	0.809	34.909	34.049	V
(26375) 1999 DE9	3405.72093	19.500	0.061	3405.72113	4.125	0.809	34.909	34.049	I
(26375) 1999 DE9	3407.72953	21.454	0.059	3407.72982	6.080	0.758	34.910	34.034	B
(26375) 1999 DE9	3407.73474	20.544	0.076	3407.73503	5.170	0.758	34.910	34.034	V
(26375) 1999 DE9	3407.73755	19.618	0.075	3407.73784	4.244	0.758	34.910	34.034	I
(26375) 1999 DE9	3409.66372	21.447	0.099	3409.66409	6.074	0.709	34.911	34.020	B
(26375) 1999 DE9	3409.66892	20.584	0.092	3409.66929	5.211	0.708	34.911	34.020	V
(26375) 1999 DE9	3409.67172	19.594	0.084	3409.67209	4.221	0.708	34.911	34.020	I
(26375) 1999 DE9	3411.77382	21.590	0.057	3411.77427	6.217	0.653	34.913	34.006	B
(26375) 1999 DE9	3411.77903	20.685	0.075	3411.77948	5.312	0.653	34.913	34.006	V

(26375) 1999 DE9	3411.78182	19.453	0.066	3411.78227	4.080	0.653	34.913	34.006	I
(26375) 1999 DE9	3413.74783	21.737	0.061	3413.74835	6.365	0.601	34.914	33.994	B
(26375) 1999 DE9	3413.75303	20.753	0.076	3413.75355	5.381	0.601	34.914	33.994	V
(26375) 1999 DE9	3413.75583	19.439	0.071	3413.75635	4.067	0.600	34.914	33.994	I
(26375) 1999 DE9	3415.79832	21.469	0.048	3415.79890	6.098	0.545	34.916	33.983	B
(26375) 1999 DE9	3415.80353	20.645	0.065	3415.80411	5.274	0.545	34.916	33.983	V
(26375) 1999 DE9	3415.80633	19.471	0.059	3415.80691	4.100	0.545	34.916	33.983	I
(26375) 1999 DE9	3431.74744	21.285	0.087	3431.74828	5.916	0.119	34.927	33.938	B
(26375) 1999 DE9	3431.75265	20.533	0.102	3431.75349	5.164	0.119	34.927	33.938	V
(26375) 1999 DE9	3431.75545	19.359	0.079	3431.75629	3.990	0.119	34.927	33.938	I
(26375) 1999 DE9	3433.68486	21.375	0.053	3433.68570	6.006	0.088	34.928	33.938	B
(26375) 1999 DE9	3433.69006	20.580	0.072	3433.69090	5.211	0.088	34.928	33.938	V
(26375) 1999 DE9	3433.69286	19.239	0.062	3433.69370	3.870	0.088	34.928	33.938	I
(26375) 1999 DE9	3435.72414	21.455	0.045	3435.72497	6.086	0.088	34.930	33.939	B
(26375) 1999 DE9	3435.72933	20.442	0.056	3435.73016	5.073	0.088	34.930	33.939	V
(26375) 1999 DE9	3435.73213	19.433	0.058	3435.73296	4.064	0.088	34.930	33.939	I
(26375) 1999 DE9	3438.69787	21.485	0.101	3438.69868	6.115	0.142	34.932	33.943	B
(26375) 1999 DE9	3438.70308	20.767	0.114	3438.70389	5.397	0.142	34.932	33.943	V
(26375) 1999 DE9	3438.70588	19.742	0.171	3438.70669	4.372	0.142	34.932	33.943	I
(26375) 1999 DE9	3442.65566	21.537	0.062	3442.65642	6.166	0.245	34.935	33.952	B
(26375) 1999 DE9	3442.66086	20.399	0.070	3442.66162	5.028	0.245	34.935	33.952	V
(26375) 1999 DE9	3442.66365	19.376	0.071	3442.66441	4.005	0.245	34.935	33.952	I
(26375) 1999 DE9	3444.68352	21.520	0.053	3444.68424	6.149	0.300	34.936	33.959	B
(26375) 1999 DE9	3444.68872	20.539	0.072	3444.68944	5.168	0.300	34.936	33.959	V
(26375) 1999 DE9	3444.69151	19.421	0.072	3444.69223	4.050	0.300	34.936	33.959	I
(26375) 1999 DE9	3446.60696	21.493	0.070	3446.60764	6.121	0.353	34.938	33.966	B
(26375) 1999 DE9	3446.61216	20.489	0.076	3446.61284	5.117	0.353	34.938	33.966	V
(26375) 1999 DE9	3446.61497	19.437	0.079	3446.61565	4.065	0.353	34.938	33.966	I
(26375) 1999 DE9	3448.64260	21.364	0.129	3448.64323	5.992	0.409	34.939	33.975	B
(26375) 1999 DE9	3448.64780	20.319	0.127	3448.64843	4.947	0.409	34.939	33.975	V
(26375) 1999 DE9	3448.65060	19.431	0.119	3448.65123	4.059	0.410	34.939	33.975	I
(26375) 1999 DE9	3450.69273	21.404	0.114	3450.69330	6.031	0.466	34.941	33.986	B
(26375) 1999 DE9	3450.69794	20.638	0.133	3450.69851	5.265	0.466	34.941	33.986	V
(26375) 1999 DE9	3450.70074	19.232	0.075	3450.70131	3.859	0.466	34.941	33.986	I
(26375) 1999 DE9	3459.57997	21.462	0.100	3459.58020	6.085	0.704	34.947	34.044	B
(26375) 1999 DE9	3459.58510	20.737	0.123	3459.58533	5.360	0.704	34.947	34.044	V
(26375) 1999 DE9	3459.58782	19.672	0.103	3459.58805	4.295	0.704	34.947	34.044	I
(26375) 1999 DE9	3461.65824	21.816	0.116	3461.65837	6.438	0.758	34.948	34.061	B
(26375) 1999 DE9	3461.66337	20.842	0.102	3461.66350	5.464	0.758	34.948	34.061	V
(26375) 1999 DE9	3461.66609	19.513	0.073	3461.66622	4.135	0.758	34.948	34.061	I
(26375) 1999 DE9	3469.52163	20.800	0.086	3469.52133	5.417	0.951	34.954	34.135	V
(26375) 1999 DE9	3469.52435	19.667	0.088	3469.52405	4.284	0.951	34.954	34.135	I
(26375) 1999 DE9	3473.57986	21.635	0.078	3473.57931	6.249	1.044	34.957	34.179	B
(26375) 1999 DE9	3473.58500	20.738	0.104	3473.58445	5.352	1.044	34.957	34.179	V
(26375) 1999 DE9	3473.58772	19.550	0.095	3473.58717	4.164	1.044	34.957	34.179	I
(26375) 1999 DE9	3475.56602	21.616	0.062	3475.56533	6.228	1.088	34.958	34.202	B
(26375) 1999 DE9	3475.57115	20.699	0.075	3475.57046	5.311	1.088	34.958	34.202	V
(26375) 1999 DE9	3475.57387	19.539	0.069	3475.57318	4.151	1.088	34.958	34.202	I
(26375) 1999 DE9	3477.52968	21.698	0.112	3477.52886	6.308	1.130	34.960	34.226	B
(26375) 1999 DE9	3477.53480	20.993	0.141	3477.53398	5.603	1.130	34.960	34.226	V

(26375) 1999 DE9	3477.53753	19.519	0.092	3477.53671	4.129	1.130	34.960	34.226	I
(26375) 1999 DE9	3501.52017	21.797	0.081	3501.51735	6.384	1.521	34.977	34.572	B
(26375) 1999 DE9	3501.52531	20.768	0.114	3501.52249	5.355	1.521	34.977	34.572	V
(26375) 1999 DE9	3501.52803	19.443	0.104	3501.52521	4.030	1.521	34.977	34.572	I
(26375) 1999 DE9	3503.49507	20.846	0.210	3503.49206	5.431	1.543	34.978	34.604	V
(26375) 1999 DE9	3503.49779	19.552	0.258	3503.49478	4.137	1.543	34.978	34.604	I
(26375) 1999 DE9	3504.51564	21.786	0.112	3504.51254	6.370	1.553	34.979	34.621	B
(26375) 1999 DE9	3504.52077	21.045	0.165	3504.51767	5.629	1.553	34.979	34.621	V
(26375) 1999 DE9	3504.52349	19.692	0.127	3504.52039	4.276	1.553	34.979	34.621	I
(26375) 1999 DE9	3509.55204	19.503	0.243	3509.54845	4.082	1.597	34.983	34.705	I
(26375) 1999 DE9	3511.50648	21.512	0.224	3511.50270	6.089	1.611	34.984	34.739	B
(26375) 1999 DE9	3511.51163	20.967	0.266	3511.50785	5.544	1.611	34.984	34.739	V
(26375) 1999 DE9	3511.51435	19.617	0.141	3511.51057	4.194	1.611	34.984	34.739	I
(26375) 1999 DE9	3520.56592	20.844	0.131	3520.56123	5.410	1.653	34.991	34.896	V
(26375) 1999 DE9	3520.56864	19.841	0.150	3520.56395	4.407	1.653	34.991	34.896	I
(26375) 1999 DE9	3521.50398	21.719	0.058	3521.49920	6.284	1.656	34.991	34.912	B
(26375) 1999 DE9	3521.50913	20.897	0.098	3521.50434	5.462	1.656	34.991	34.912	V
(26375) 1999 DE9	3521.51185	19.557	0.107	3521.50706	4.122	1.656	34.991	34.912	I
(26375) 1999 DE9	3523.48278	21.672	0.061	3523.47779	6.235	1.659	34.993	34.947	B
(26375) 1999 DE9	3523.48792	20.803	0.106	3523.48293	5.366	1.659	34.993	34.947	V
(26375) 1999 DE9	3523.49065	19.682	0.164	3523.48566	4.245	1.659	34.993	34.947	I
(26375) 1999 DE9	3527.45989	21.747	0.094	3527.45450	6.306	1.660	34.995	35.017	B
(26375) 1999 DE9	3527.46504	20.899	0.106	3527.45965	5.458	1.660	34.995	35.017	V
(26375) 1999 DE9	3527.46776	19.622	0.093	3527.46237	4.181	1.660	34.995	35.017	I
				#					
(47171) 1999 TC36	2845.88407	21.369	0.134	2845.88407	6.459	1.690	31.198	30.751	B
(47171) 1999 TC36	2845.88706	19.038	0.260	2845.88706	4.128	1.690	31.198	30.750	I
(47171) 1999 TC36	2846.89072	20.964	0.146	2846.89081	6.055	1.676	31.198	30.735	B
(47171) 1999 TC36	2846.89517	20.039	0.206	2846.89526	5.130	1.676	31.198	30.735	V
(47171) 1999 TC36	2847.88925	21.381	0.270	2847.88943	6.473	1.662	31.198	30.720	B
(47171) 1999 TC36	2856.82281	21.367	0.105	2856.82373	6.469	1.517	31.195	30.592	B
(47171) 1999 TC36	2856.82580	19.160	0.192	2856.82672	4.262	1.517	31.195	30.592	I
(47171) 1999 TC36	2856.82725	20.792	0.198	2856.82817	5.894	1.517	31.195	30.592	V
(47171) 1999 TC36	2857.85261	21.498	0.062	2857.85361	6.601	1.498	31.195	30.578	B
(47171) 1999 TC36	2857.85561	19.104	0.108	2857.85661	4.207	1.498	31.195	30.578	I
(47171) 1999 TC36	2857.85706	20.541	0.089	2857.85806	5.644	1.498	31.195	30.578	V
(47171) 1999 TC36	2859.86353	21.545	0.070	2859.86468	6.649	1.460	31.194	30.551	B
(47171) 1999 TC36	2859.86656	19.068	0.106	2859.86771	4.172	1.460	31.194	30.551	I
(47171) 1999 TC36	2859.86805	20.471	0.091	2859.86920	5.575	1.459	31.194	30.551	V
(47171) 1999 TC36	2860.88899	21.444	0.067	2860.89022	6.549	1.439	31.194	30.538	B
(47171) 1999 TC36	2860.89199	19.176	0.110	2860.89322	4.281	1.439	31.194	30.538	I
(47171) 1999 TC36	2860.89345	20.342	0.082	2860.89468	5.447	1.439	31.194	30.538	V
(47171) 1999 TC36	2861.85712	20.942	0.219	2861.85842	6.048	1.420	31.194	30.525	B
(47171) 1999 TC36	2861.86011	19.086	0.106	2861.86141	4.192	1.420	31.194	30.525	I
(47171) 1999 TC36	2861.86156	20.281	0.118	2861.86286	5.387	1.420	31.194	30.525	V
(47171) 1999 TC36	2862.84545	19.146	0.132	2862.84682	4.253	1.400	31.193	30.513	I
(47171) 1999 TC36	2862.84690	20.204	0.138	2862.84827	5.311	1.400	31.193	30.513	V
(47171) 1999 TC36	2863.82013	19.044	0.164	2863.82157	4.152	1.379	31.193	30.501	I
(47171) 1999 TC36	2863.82162	20.159	0.176	2863.82306	5.267	1.379	31.193	30.501	V
(47171) 1999 TC36	2864.84900	19.083	0.188	2864.85052	4.192	1.357	31.193	30.488	I

(47171) 1999 TC36	2864.85048	20.327	0.246	2864.85200	5.436	1.357	31.193	30.488	V
(47171) 1999 TC36	2865.85574	18.850	0.244	2865.85733	3.960	1.336	31.193	30.476	I
(47171) 1999 TC36	2868.78180	20.760	0.285	2868.78358	5.872	1.270	31.192	30.442	B
(47171) 1999 TC36	2868.78484	18.776	0.292	2868.78662	3.888	1.270	31.192	30.442	I
(47171) 1999 TC36	2869.75921	20.589	0.213	2869.76106	5.702	1.248	31.191	30.431	B
(47171) 1999 TC36	2869.76225	18.753	0.156	2869.76410	3.866	1.248	31.191	30.431	I
(47171) 1999 TC36	2869.76374	20.229	0.174	2869.76559	5.342	1.248	31.191	30.431	V
(47171) 1999 TC36	2874.81033	21.263	0.057	2874.81248	6.380	1.126	31.190	30.377	B
(47171) 1999 TC36	2874.81337	18.988	0.109	2874.81552	4.105	1.126	31.190	30.377	I
(47171) 1999 TC36	2874.81486	20.412	0.095	2874.81701	5.529	1.126	31.190	30.377	V
(47171) 1999 TC36	2875.79882	21.454	0.056	2875.80103	6.572	1.102	31.190	30.368	B
(47171) 1999 TC36	2875.80185	19.023	0.097	2875.80406	4.141	1.102	31.190	30.368	I
(47171) 1999 TC36	2875.80334	20.383	0.075	2875.80555	5.501	1.102	31.190	30.368	V
(47171) 1999 TC36	2876.74499	21.539	0.072	2876.74725	6.658	1.078	31.189	30.359	B
(47171) 1999 TC36	2876.74803	18.898	0.099	2876.75029	4.017	1.078	31.189	30.359	I
(47171) 1999 TC36	2876.74951	20.529	0.096	2876.75177	5.648	1.078	31.189	30.359	V
(47171) 1999 TC36	2878.75879	21.566	0.094	2878.76116	6.686	1.026	31.189	30.340	B
(47171) 1999 TC36	2878.76182	19.005	0.150	2878.76419	4.125	1.026	31.189	30.340	I
(47171) 1999 TC36	2878.76331	20.373	0.105	2878.76568	5.493	1.026	31.189	30.340	V
(47171) 1999 TC36	2892.75463	18.759	0.172	2892.75759	3.886	0.649	31.185	30.238	I
(47171) 1999 TC36	2892.75613	20.183	0.257	2892.75909	5.310	0.649	31.185	30.238	V
(47171) 1999 TC36	2895.73111	20.759	0.145	2895.73415	5.888	0.568	31.184	30.224	B
(47171) 1999 TC36	2895.73414	18.594	0.186	2895.73718	3.723	0.568	31.184	30.224	I
(47171) 1999 TC36	2895.73562	20.199	0.245	2895.73866	5.328	0.568	31.184	30.224	V
(47171) 1999 TC36	2896.72539	21.483	0.239	2896.72846	6.612	0.542	31.184	30.219	B
(47171) 1999 TC36	2896.72842	18.958	0.159	2896.73149	4.087	0.541	31.184	30.219	I
(47171) 1999 TC36	2896.72990	19.804	0.125	2896.73297	4.933	0.541	31.184	30.219	V
(47171) 1999 TC36	2901.72340	20.877	0.134	2901.72657	6.007	0.415	31.182	30.202	B
(47171) 1999 TC36	2901.72792	19.970	0.152	2901.73109	5.100	0.415	31.182	30.202	V
(47171) 1999 TC36	2903.74367	20.892	0.167	2903.74687	6.023	0.371	31.181	30.197	B
(47171) 1999 TC36	2903.74820	19.856	0.219	2903.75140	4.987	0.370	31.181	30.197	V
(47171) 1999 TC36	2907.71908	21.199	0.065	2907.72232	6.330	0.302	31.180	30.190	B
(47171) 1999 TC36	2907.72211	18.956	0.094	2907.72535	4.087	0.302	31.180	30.190	I
(47171) 1999 TC36	2907.72360	20.137	0.066	2907.72684	5.268	0.302	31.180	30.190	V
(47171) 1999 TC36	2909.67507	21.245	0.094	2909.67831	6.376	0.284	31.180	30.189	B
(47171) 1999 TC36	2909.67811	18.532	0.195	2909.68135	3.663	0.284	31.180	30.189	I
(47171) 1999 TC36	2909.67959	20.112	0.112	2909.68283	5.243	0.284	31.180	30.189	V
(47171) 1999 TC36	2915.69118	20.844	0.129	2915.69441	5.975	0.310	31.178	30.191	B
(47171) 1999 TC36	2915.69421	18.770	0.141	2915.69744	3.901	0.310	31.178	30.191	I
(47171) 1999 TC36	2915.69570	20.406	0.183	2915.69893	5.537	0.310	31.178	30.191	V
(47171) 1999 TC36	2916.70305	21.127	0.109	2916.70627	6.258	0.326	31.178	30.193	B
(47171) 1999 TC36	2916.70609	18.669	0.094	2916.70931	3.800	0.326	31.178	30.193	I
(47171) 1999 TC36	2916.70757	20.518	0.129	2916.71079	5.649	0.326	31.178	30.193	V
(47171) 1999 TC36	2928.64993	21.132	0.109	2928.65292	6.261	0.610	31.174	30.233	B
(47171) 1999 TC36	2928.65296	18.845	0.095	2928.65595	3.974	0.610	31.174	30.233	I
(47171) 1999 TC36	2928.65445	20.387	0.096	2928.65744	5.516	0.610	31.174	30.233	V
(47171) 1999 TC36	2940.64073	18.872	0.101	2940.64325	3.995	0.936	31.171	30.315	I
(47171) 1999 TC36	2940.64222	20.236	0.096	2940.64474	5.359	0.936	31.171	30.315	V
(47171) 1999 TC36	2943.65343	18.913	0.096	2943.65579	4.034	1.014	31.170	30.342	I
(47171) 1999 TC36	2943.65492	20.193	0.071	2943.65728	5.314	1.014	31.170	30.342	V

(47171) 1999 TC36	2944.63653	21.311	0.124	2944.63884	6.432	1.039	31.170	30.351	B
(47171) 1999 TC36	2944.63956	19.186	0.213	2944.64187	4.306	1.039	31.170	30.351	I
(47171) 1999 TC36	2944.64106	20.446	0.164	2944.64337	5.566	1.039	31.170	30.351	V
(47171) 1999 TC36	2945.59461	21.378	0.170	2945.59687	6.498	1.064	31.169	30.360	B
(47171) 1999 TC36	2945.59765	19.172	0.202	2945.59991	4.292	1.064	31.169	30.360	I
(47171) 1999 TC36	2945.59914	20.120	0.134	2945.60140	5.240	1.064	31.169	30.360	V
(47171) 1999 TC36	2946.62921	21.456	0.184	2946.63141	6.575	1.090	31.169	30.370	B
(47171) 1999 TC36	2946.63225	18.673	0.129	2946.63445	3.792	1.090	31.169	30.370	I
(47171) 1999 TC36	2946.63374	20.260	0.155	2946.63594	5.379	1.090	31.169	30.370	V
(47171) 1999 TC36	2947.59495	20.168	0.251	2947.59709	5.286	1.113	31.169	30.380	B
(47171) 1999 TC36	2947.59948	20.242	0.281	2947.60162	5.360	1.114	31.169	30.380	V
(47171) 1999 TC36	2951.61897	18.748	0.132	2951.62086	3.864	1.210	31.168	30.422	I
(47171) 1999 TC36	2951.62047	20.061	0.183	2951.62236	5.177	1.210	31.168	30.423	V
(47171) 1999 TC36	2953.58579	19.110	0.136	2953.58756	4.224	1.255	31.167	30.445	I
(47171) 1999 TC36	2953.58728	20.296	0.163	2953.58905	5.410	1.255	31.167	30.445	V
(47171) 1999 TC36	2953.85637	18.520	0.179	2953.85812	3.634	1.261	31.167	30.448	I
(47171) 1999 TC36	2953.85666	19.840	0.209	2953.85841	4.954	1.261	31.167	30.448	V
(47171) 1999 TC36	2957.62189	18.897	0.101	2957.62338	4.008	1.344	31.166	30.493	I
(47171) 1999 TC36	2957.62338	20.266	0.100	2957.62487	5.377	1.344	31.166	30.493	V
(47171) 1999 TC36	2963.56735	19.118	0.167	2963.56839	4.223	1.462	31.164	30.570	I
(47171) 1999 TC36	2963.56882	20.011	0.090	2963.56986	5.116	1.462	31.164	30.570	V
(47171) 1999 TC36	2974.61900	21.532	0.144	2974.61912	6.626	1.639	31.161	30.730	B
(47171) 1999 TC36	2974.62203	19.324	0.178	2974.62215	4.418	1.639	31.161	30.730	I
(47171) 1999 TC36	2974.62350	20.386	0.163	2974.62362	5.480	1.639	31.161	30.730	V
(47171) 1999 TC36	2980.53097	21.336	0.192	2980.53055	6.424	1.709	31.159	30.822	B
(47171) 1999 TC36	2980.53547	20.410	0.171	2980.53505	5.498	1.709	31.159	30.823	V
				#					
(55638) 2002 VE95	3224.90492	20.383	0.179	3224.90492	5.893	2.039	28.035	28.200	V
(55638) 2002 VE95	3224.90698	19.213	0.127	3224.90698	4.723	2.039	28.035	28.200	I
(55638) 2002 VE95	3238.86106	21.706	0.080	3238.86106	7.234	2.067	28.037	27.970	B
(55638) 2002 VE95	3238.86516	20.593	0.113	3238.86649	6.121	2.067	28.037	27.970	V
(55638) 2002 VE95	3238.86723	19.139	0.085	3238.86856	4.667	2.067	28.037	27.970	I
(55638) 2002 VE95	3240.84778	21.810	0.100	3240.84797	7.340	2.062	28.037	27.937	B
(55638) 2002 VE95	3240.85189	20.590	0.132	3240.85341	6.120	2.062	28.037	27.937	V
(55638) 2002 VE95	3240.85396	18.894	0.099	3240.85548	4.424	2.062	28.037	27.937	I
(55638) 2002 VE95	3242.81350	21.643	0.085	3242.81388	7.176	2.054	28.037	27.905	B
(55638) 2002 VE95	3242.82458	21.701	0.075	3242.82496	7.234	2.054	28.037	27.905	B
(55638) 2002 VE95	3242.82869	20.637	0.095	3242.83039	6.170	2.054	28.037	27.905	V
(55638) 2002 VE95	3242.83076	18.984	0.079	3242.83246	4.517	2.054	28.037	27.905	I
(55638) 2002 VE95	3245.84751	21.730	0.292	3245.84817	7.267	2.039	28.037	27.855	B
(55638) 2002 VE95	3245.85162	20.306	0.176	3245.85361	5.843	2.039	28.037	27.855	V
(55638) 2002 VE95	3245.85368	19.049	0.084	3245.85567	4.586	2.039	28.037	27.855	I
(55638) 2002 VE95	3247.80674	20.193	0.255	3247.80891	5.732	2.026	28.038	27.823	V
(55638) 2002 VE95	3247.80881	19.060	0.128	3247.81098	4.599	2.026	28.038	27.823	I
(55638) 2002 VE95	3249.80158	21.060	0.212	3249.80261	6.602	2.011	28.038	27.791	B
(55638) 2002 VE95	3249.80569	20.573	0.265	3249.80805	6.115	2.011	28.038	27.791	V
(55638) 2002 VE95	3249.80776	18.977	0.106	3249.81012	4.519	2.011	28.038	27.791	I
(55638) 2002 VE95	3251.79745	21.118	0.253	3251.79867	6.662	1.993	28.038	27.759	B
(55638) 2002 VE95	3251.80157	20.191	0.257	3251.80411	5.735	1.993	28.038	27.759	V
(55638) 2002 VE95	3251.80363	19.129	0.194	3251.80617	4.673	1.993	28.038	27.759	I

(55638) 2002 VE95	3257.83824	21.594	0.070	3257.84000	7.146	1.927	28.039	27.665	B
(55638) 2002 VE95	3257.84239	20.347	0.092	3257.84548	5.899	1.927	28.039	27.665	V
(55638) 2002 VE95	3257.84449	19.037	0.074	3257.84758	4.589	1.927	28.039	27.665	I
(55638) 2002 VE95	3259.80268	21.609	0.133	3259.80462	7.163	1.901	28.039	27.635	B
(55638) 2002 VE95	3259.80680	20.269	0.136	3259.81006	5.823	1.901	28.039	27.635	V
(55638) 2002 VE95	3259.80887	18.866	0.105	3259.81213	4.420	1.901	28.039	27.635	I
(55638) 2002 VE95	3261.82042	21.430	0.063	3261.82253	6.986	1.872	28.039	27.604	B
(55638) 2002 VE95	3261.82454	20.602	0.102	3261.82798	6.158	1.872	28.039	27.604	V
(55638) 2002 VE95	3261.82662	19.077	0.071	3261.83006	4.633	1.872	28.039	27.604	I
(55638) 2002 VE95	3263.74395	21.497	0.059	3263.74623	7.056	1.842	28.039	27.576	B
(55638) 2002 VE95	3263.74808	20.353	0.067	3263.75169	5.912	1.842	28.039	27.576	V
(55638) 2002 VE95	3263.75015	18.986	0.063	3263.75376	4.545	1.842	28.039	27.576	I
(55638) 2002 VE95	3265.83027	21.381	0.057	3265.83272	6.942	1.808	28.040	27.545	B
(55638) 2002 VE95	3265.83442	20.456	0.090	3265.83820	6.017	1.808	28.040	27.545	V
(55638) 2002 VE95	3265.83652	18.939	0.075	3265.84030	4.500	1.808	28.040	27.545	I
(55638) 2002 VE95	3267.81334	21.327	0.092	3267.81596	6.890	1.773	28.040	27.517	B
(55638) 2002 VE95	3267.81745	20.488	0.145	3267.82139	6.051	1.773	28.040	27.517	V
(55638) 2002 VE95	3267.81952	18.881	0.090	3267.82346	4.444	1.773	28.040	27.517	I
(55638) 2002 VE95	3269.82457	21.569	0.100	3269.82735	7.134	1.736	28.040	27.489	B
(55638) 2002 VE95	3269.82868	20.461	0.117	3269.83279	6.026	1.736	28.040	27.489	V
(55638) 2002 VE95	3269.83075	19.069	0.086	3269.83486	4.634	1.736	28.040	27.489	I
(55638) 2002 VE95	3271.84501	21.516	0.049	3271.84795	7.083	1.696	28.040	27.461	B
(55638) 2002 VE95	3271.84913	20.374	0.072	3271.85340	5.941	1.696	28.040	27.461	V
(55638) 2002 VE95	3271.85119	19.115	0.059	3271.85546	4.682	1.696	28.040	27.461	I
(55638) 2002 VE95	3273.77288	21.475	0.211	3273.77597	7.044	1.657	28.040	27.436	B
(55638) 2002 VE95	3273.77704	20.256	0.139	3273.78145	5.825	1.657	28.040	27.436	V
(55638) 2002 VE95	3273.77914	19.034	0.071	3273.78355	4.604	1.657	28.040	27.436	I
(55638) 2002 VE95	3281.80470	21.067	0.173	3281.80836	6.644	1.474	28.041	27.336	B
(55638) 2002 VE95	3281.80885	19.940	0.169	3281.81384	5.517	1.474	28.041	27.336	V
(55638) 2002 VE95	3281.81095	18.759	0.116	3281.81594	4.336	1.473	28.041	27.336	I
(55638) 2002 VE95	3283.81817	21.288	0.086	3283.82196	6.867	1.423	28.042	27.313	B
(55638) 2002 VE95	3283.82231	20.443	0.107	3283.82743	6.022	1.423	28.042	27.313	V
(55638) 2002 VE95	3283.82441	19.028	0.059	3283.82953	4.607	1.423	28.042	27.313	I
(55638) 2002 VE95	3291.66977	21.571	0.119	3291.67403	7.156	1.213	28.042	27.232	B
(55638) 2002 VE95	3291.67392	20.311	0.153	3291.67951	5.896	1.213	28.042	27.232	V
(55638) 2002 VE95	3291.67602	18.933	0.113	3291.68161	4.518	1.213	28.042	27.232	I
(55638) 2002 VE95	3293.71545	21.332	0.085	3293.71982	6.919	1.155	28.043	27.214	B
(55638) 2002 VE95	3293.71960	20.213	0.113	3293.72530	5.800	1.155	28.043	27.214	V
(55638) 2002 VE95	3293.72171	18.923	0.070	3293.72741	4.510	1.155	28.043	27.214	I
(55638) 2002 VE95	3297.73231	21.325	0.045	3297.73687	6.915	1.037	28.043	27.180	B
(55638) 2002 VE95	3297.73646	20.268	0.068	3297.74235	5.858	1.037	28.043	27.180	V
(55638) 2002 VE95	3297.73856	18.913	0.053	3297.74445	4.503	1.037	28.043	27.180	I
(55638) 2002 VE95	3299.68416	21.333	0.085	3299.68881	6.924	0.979	28.043	27.165	B
(55638) 2002 VE95	3299.68832	20.292	0.089	3299.69429	5.883	0.979	28.043	27.165	V
(55638) 2002 VE95	3299.69043	18.943	0.059	3299.69640	4.534	0.979	28.043	27.165	I
(55638) 2002 VE95	3302.64297	21.283	0.266	3302.64774	6.875	0.890	28.044	27.145	B
(55638) 2002 VE95	3302.64922	18.811	0.089	3302.65531	4.403	0.890	28.044	27.145	I
(55638) 2002 VE95	3309.68153	21.311	0.213	3309.68652	6.906	0.677	28.045	27.106	B
(55638) 2002 VE95	3309.68569	20.129	0.197	3309.69201	5.724	0.677	28.045	27.106	V
(55638) 2002 VE95	3309.68779	18.728	0.117	3309.69411	4.323	0.677	28.045	27.106	I

(55638) 2002 VE95	3311.66395	21.299	0.110	3311.66899	6.895	0.619	28.045	27.098	B
(55638) 2002 VE95	3311.66811	20.271	0.106	3311.67448	5.867	0.619	28.045	27.098	V
(55638) 2002 VE95	3311.67022	18.740	0.072	3311.67659	4.336	0.619	28.045	27.098	I
(55638) 2002 VE95	3338.67801	21.352	0.165	3338.68303	6.948	0.564	28.048	27.101	B
(55638) 2002 VE95	3338.68217	20.189	0.161	3338.68852	5.785	0.565	28.048	27.101	V
(55638) 2002 VE95	3338.68428	18.859	0.132	3338.69063	4.455	0.565	28.048	27.101	I
(55638) 2002 VE95	3340.61291	21.457	0.057	3340.61788	7.052	0.619	28.048	27.109	B
(55638) 2002 VE95	3340.61706	20.204	0.085	3340.62336	5.799	0.620	28.048	27.109	V
(55638) 2002 VE95	3340.61916	18.890	0.056	3340.62546	4.485	0.620	28.048	27.109	I
(55638) 2002 VE95	3352.57893	21.327	0.060	3352.58345	6.916	0.978	28.050	27.187	B
(55638) 2002 VE95	3352.58309	20.277	0.075	3352.58894	5.866	0.978	28.050	27.187	V
(55638) 2002 VE95	3352.58520	18.899	0.057	3352.59105	4.488	0.978	28.050	27.187	I
(55638) 2002 VE95	3354.58713	21.425	0.051	3354.59156	7.012	1.037	28.050	27.204	B
(55638) 2002 VE95	3354.59128	20.287	0.066	3354.59703	5.874	1.038	28.050	27.204	V
(55638) 2002 VE95	3354.59338	18.933	0.058	3354.59913	4.520	1.038	28.050	27.204	I
(55638) 2002 VE95	3356.61728	21.366	0.058	3356.62160	6.952	1.097	28.050	27.222	B
(55638) 2002 VE95	3356.62143	20.415	0.082	3356.62708	6.001	1.097	28.050	27.222	V
(55638) 2002 VE95	3358.60921	20.576	0.113	3358.61475	6.160	1.154	28.050	27.241	V
(55638) 2002 VE95	3360.55974	21.397	0.168	3360.56384	6.980	1.209	28.051	27.261	B
(55638) 2002 VE95	3360.56388	20.183	0.133	3360.56930	5.766	1.209	28.051	27.261	V
(55638) 2002 VE95	3360.56599	19.072	0.083	3360.57141	4.655	1.209	28.051	27.261	I
(55638) 2002 VE95	3363.60903	19.195	0.208	3363.61427	4.775	1.292	28.051	27.293	I
(55638) 2002 VE95	3366.56129	18.907	0.280	3366.56633	4.484	1.370	28.051	27.326	I
(55638) 2002 VE95	3370.61213	21.457	0.055	3370.61556	7.030	1.471	28.052	27.375	B
(55638) 2002 VE95	3370.61629	20.365	0.070	3370.62105	5.938	1.471	28.052	27.375	V
(55638) 2002 VE95	3370.61840	19.059	0.060	3370.62316	4.632	1.471	28.052	27.376	I
(55638) 2002 VE95	3372.59308	21.397	0.057	3372.59637	6.968	1.517	28.052	27.401	B
(55638) 2002 VE95	3372.59723	20.533	0.092	3372.60185	6.104	1.517	28.052	27.401	V
(55638) 2002 VE95	3372.59933	18.978	0.058	3372.60394	4.549	1.517	28.052	27.401	I
(55638) 2002 VE95	3374.57558	21.400	0.070	3374.57872	6.969	1.562	28.052	27.427	B
(55638) 2002 VE95	3374.57974	20.319	0.092	3374.58420	5.888	1.562	28.052	27.427	V
(55638) 2002 VE95	3374.58184	18.937	0.072	3374.58630	4.506	1.563	28.052	27.427	I
(55638) 2002 VE95	3376.58029	21.507	0.070	3376.58327	7.074	1.606	28.053	27.454	B
(55638) 2002 VE95	3376.58445	20.551	0.092	3376.58876	6.118	1.606	28.053	27.454	V
(55638) 2002 VE95	3376.58656	18.937	0.070	3376.59087	4.504	1.606	28.053	27.454	I
(55638) 2002 VE95	3382.54885	21.342	0.094	3382.55134	6.902	1.724	28.053	27.539	B
(55638) 2002 VE95	3382.55300	20.490	0.237	3382.55682	6.050	1.724	28.053	27.539	V
(55638) 2002 VE95	3382.55511	19.242	0.186	3382.55893	4.802	1.724	28.053	27.539	I
(55638) 2002 VE95	3394.58604	19.047	0.106	3394.58877	4.592	1.903	28.055	27.726	I
(55638) 2002 VE95	3395.57787	20.105	0.154	3395.58051	5.649	1.915	28.055	27.743	V
(55638) 2002 VE95	3395.57997	19.141	0.109	3395.58261	4.685	1.915	28.055	27.743	I
(55638) 2002 VE95	3399.56274	21.504	0.066	3399.56367	7.043	1.953	28.055	27.809	B
(55638) 2002 VE95	3399.56689	20.410	0.087	3399.56915	5.949	1.953	28.055	27.809	V
(55638) 2002 VE95	3399.56900	19.098	0.067	3399.57126	4.637	1.953	28.055	27.809	I
				#					
(47932) 2000 GN171	3068.72357	21.276	0.207	3068.72357	6.789	1.464	28.526	27.681	V
(47932) 2000 GN171	3068.72638	20.224	0.139	3068.72638	5.737	1.464	28.526	27.681	I
(47932) 2000 GN171	3068.76636	21.001	0.149	3068.76636	6.514	1.463	28.526	27.681	V
(47932) 2000 GN171	3068.76918	20.033	0.110	3068.76918	5.546	1.463	28.526	27.681	I
(47932) 2000 GN171	3079.61034	20.992	0.095	3079.61063	6.509	1.091	28.524	27.630	V

(47932) 2000 GN171	3079.61316	20.104	0.105	3079.61345	5.621	1.091	28.524	27.630	I
(47932) 2000 GN171	3079.69659	21.067	0.085	3079.69688	6.584	1.088	28.524	27.630	V
(47932) 2000 GN171	3079.69940	19.776	0.066	3079.69969	5.293	1.088	28.524	27.630	I
(47932) 2000 GN171	3087.67983	20.927	0.072	3087.68034	6.447	0.814	28.522	27.593	V
(47932) 2000 GN171	3087.68266	19.773	0.069	3087.68317	5.293	0.814	28.522	27.593	I
(47932) 2000 GN171	3087.72192	20.788	0.064	3087.72243	6.308	0.812	28.522	27.593	V
(47932) 2000 GN171	3087.72474	19.689	0.060	3087.72525	5.209	0.812	28.522	27.593	I
(47932) 2000 GN171	3091.62193	21.336	0.143	3091.62254	6.858	0.679	28.522	27.575	V
(47932) 2000 GN171	3091.62474	20.237	0.122	3091.62535	5.759	0.679	28.522	27.575	I
(47932) 2000 GN171	3091.66477	20.955	0.076	3091.66538	6.477	0.677	28.522	27.575	V
(47932) 2000 GN171	3091.66758	19.921	0.080	3091.66819	5.443	0.677	28.522	27.575	I
(47932) 2000 GN171	3098.59334	19.819	0.134	3098.59414	5.343	0.439	28.520	27.543	I
(47932) 2000 GN171	3098.64931	21.307	0.260	3098.65011	6.831	0.438	28.520	27.543	V
(47932) 2000 GN171	3098.65212	19.764	0.105	3098.65292	5.288	0.437	28.520	27.543	I
(47932) 2000 GN171	3102.67113	19.672	0.236	3102.67201	5.197	0.298	28.519	27.528	I
(47932) 2000 GN171	3106.60128	20.832	0.083	3106.60222	6.358	0.159	28.518	27.519	V
(47932) 2000 GN171	3106.60410	19.624	0.075	3106.60504	5.150	0.159	28.518	27.519	I
(47932) 2000 GN171	3106.64479	20.744	0.080	3106.64573	6.270	0.158	28.518	27.519	V
(47932) 2000 GN171	3106.64760	19.603	0.067	3106.64854	5.129	0.158	28.518	27.519	I
(47932) 2000 GN171	3110.65355	20.601	0.072	3110.65451	6.128	0.020	28.518	27.514	V
(47932) 2000 GN171	3110.65631	19.474	0.090	3110.65727	5.001	0.020	28.518	27.514	I
(47932) 2000 GN171	3110.80916	20.785	0.098	3110.81012	6.312	0.019	28.518	27.514	V
(47932) 2000 GN171	3110.81192	19.543	0.101	3110.81288	5.070	0.019	28.518	27.514	I
(47932) 2000 GN171	3115.68178	21.037	0.097	3115.68274	6.564	0.162	28.517	27.515	V
(47932) 2000 GN171	3115.68454	19.806	0.117	3115.68550	5.333	0.162	28.517	27.515	I
(47932) 2000 GN171	3115.72778	21.304	0.142	3115.72874	6.831	0.164	28.517	27.515	V
(47932) 2000 GN171	3115.73054	19.606	0.125	3115.73150	5.133	0.164	28.517	27.515	I
(47932) 2000 GN171	3134.48533	21.385	0.148	3134.48589	6.906	0.805	28.513	27.584	V
(47932) 2000 GN171	3134.48809	19.852	0.132	3134.48865	5.373	0.805	28.513	27.584	I
(47932) 2000 GN171	3135.52116	21.231	0.202	3135.52168	6.752	0.838	28.512	27.591	V
(47932) 2000 GN171	3139.52449	21.037	0.098	3139.52484	6.556	0.965	28.512	27.620	V
(47932) 2000 GN171	3139.52725	19.807	0.110	3139.52760	5.326	0.965	28.512	27.620	I
(47932) 2000 GN171	3139.56625	20.909	0.079	3139.56660	6.428	0.966	28.512	27.620	V
(47932) 2000 GN171	3139.56902	19.607	0.075	3139.56937	5.126	0.966	28.512	27.620	I
(47932) 2000 GN171	3144.48600	21.050	0.102	3144.48612	6.566	1.115	28.511	27.661	V
(47932) 2000 GN171	3144.48876	20.069	0.111	3144.48888	5.585	1.115	28.511	27.661	I
(47932) 2000 GN171	3144.59137	21.046	0.098	3144.59148	6.562	1.118	28.511	27.662	V
(47932) 2000 GN171	3144.59413	19.862	0.081	3144.59424	5.378	1.118	28.511	27.662	I
(47932) 2000 GN171	3149.60843	21.414	0.195	3149.60826	6.926	1.261	28.509	27.710	V
(47932) 2000 GN171	3153.50751	21.248	0.205	3153.50711	6.757	1.366	28.509	27.751	V
(47932) 2000 GN171	3153.51027	20.049	0.169	3153.50986	5.558	1.366	28.509	27.751	I
(47932) 2000 GN171	3153.55268	20.289	0.245	3153.55227	5.798	1.367	28.509	27.752	I
(47932) 2000 GN171	3162.58216	21.459	0.236	3162.58113	6.959	1.584	28.507	27.859	V
(47932) 2000 GN171	3162.58492	20.271	0.147	3162.58389	5.771	1.584	28.507	27.859	I
(47932) 2000 GN171	3168.65388	21.584	0.163	3168.65238	7.078	1.709	28.506	27.940	V
(47932) 2000 GN171	3168.65664	20.516	0.153	3168.65514	6.010	1.709	28.506	27.940	I
(47932) 2000 GN171	3168.69096	20.932	0.114	3168.68946	6.426	1.709	28.506	27.941	V
(47932) 2000 GN171	3168.69372	20.184	0.166	3168.69222	5.678	1.709	28.506	27.941	I
(47932) 2000 GN171	3174.48740	21.165	0.089	3174.48542	6.653	1.811	28.504	28.024	V
(47932) 2000 GN171	3174.49017	19.962	0.114	3174.48819	5.450	1.811	28.504	28.024	I

(47932) 2000 GN171	3174.54972	21.449	0.106	3174.54774	6.937	1.812	28.504	28.025	V
(47932) 2000 GN171	3174.55249	20.549	0.197	3174.55051	6.037	1.812	28.504	28.025	I
(47932) 2000 GN171	3178.50823	21.391	0.269	3178.50590	6.874	1.871	28.504	28.084	V
(47932) 2000 GN171	3178.56058	20.241	0.203	3178.55825	5.724	1.872	28.504	28.085	I
(47932) 2000 GN171	3185.61778	20.887	0.282	3185.61482	6.362	1.956	28.502	28.194	V
(47932) 2000 GN171	3185.62054	19.967	0.233	3185.61757	5.442	1.956	28.502	28.194	I
(47932) 2000 GN171	3194.50982	21.130	0.102	3194.50602	6.594	2.022	28.500	28.338	V
(47932) 2000 GN171	3194.51257	20.726	0.282	3194.50877	6.190	2.022	28.500	28.338	I
(47932) 2000 GN171	3203.46850	21.263	0.098	3203.46385	6.716	2.043	28.498	28.486	V
(47932) 2000 GN171	3203.47125	20.083	0.094	3203.46660	5.536	2.043	28.498	28.486	I
(47932) 2000 GN171	3207.47557	20.890	0.205	3207.47054	6.338	2.037	28.498	28.553	V
(47932) 2000 GN171	3207.47833	20.534	0.270	3207.47329	5.982	2.037	28.498	28.553	I
				#					
(95626) 2002 GZ32	2696.77700	20.466	0.137	2696.77700	7.351	1.477	20.911	20.072	V
(95626) 2002 GZ32	2696.77917	20.511	0.141	2696.77917	7.396	1.477	20.911	20.072	V
(95626) 2002 GZ32	2698.80101	20.421	0.235	2698.80111	7.308	1.405	20.909	20.054	V
(95626) 2002 GZ32	2698.80318	20.519	0.234	2698.80328	7.406	1.405	20.909	20.054	V
(95626) 2002 GZ32	2698.80845	21.163	0.100	2698.80855	8.050	1.405	20.909	20.054	B
(95626) 2002 GZ32	2698.81359	19.673	0.227	2698.81369	6.560	1.405	20.909	20.054	I
(95626) 2002 GZ32	2700.80325	20.126	0.281	2700.80345	7.015	1.334	20.908	20.038	V
(95626) 2002 GZ32	2700.80541	20.497	0.298	2700.80561	7.386	1.334	20.908	20.038	V
(95626) 2002 GZ32	2700.81035	21.181	0.125	2700.81055	8.070	1.334	20.908	20.038	B
(95626) 2002 GZ32	2702.75257	21.056	0.235	2702.75286	7.947	1.265	20.906	20.023	B
(95626) 2002 GZ32	2704.79848	21.291	0.127	2704.79885	8.184	1.193	20.905	20.008	B
(95626) 2002 GZ32	2704.80321	19.500	0.281	2704.80358	6.393	1.193	20.905	20.008	I
(95626) 2002 GZ32	2706.77498	21.123	0.166	2706.77543	8.017	1.125	20.903	19.995	B
(95626) 2002 GZ32	2708.72295	20.570	0.173	2708.72347	7.466	1.060	20.902	19.983	V
(95626) 2002 GZ32	2708.72512	20.431	0.147	2708.72564	7.327	1.060	20.902	19.983	V
(95626) 2002 GZ32	2708.73479	19.348	0.174	2708.73531	6.244	1.060	20.902	19.983	I
(95626) 2002 GZ32	2710.76047	20.695	0.138	2710.76105	7.592	0.995	20.900	19.971	V
(95626) 2002 GZ32	2710.76263	20.582	0.129	2710.76321	7.479	0.995	20.900	19.971	V
(95626) 2002 GZ32	2710.76757	21.468	0.083	2710.76815	8.365	0.995	20.900	19.971	B
(95626) 2002 GZ32	2710.77230	19.810	0.187	2710.77288	6.707	0.995	20.900	19.971	I
(95626) 2002 GZ32	2712.79079	20.590	0.175	2712.79143	7.488	0.934	20.898	19.961	V
(95626) 2002 GZ32	2712.79295	20.486	0.146	2712.79359	7.384	0.934	20.898	19.961	V
(95626) 2002 GZ32	2712.79789	21.458	0.114	2712.79853	8.356	0.934	20.898	19.961	B
(95626) 2002 GZ32	2712.80262	19.196	0.158	2712.80326	6.094	0.934	20.898	19.961	I
(95626) 2002 GZ32	2714.79527	19.913	0.189	2714.79596	6.813	0.879	20.897	19.952	V
(95626) 2002 GZ32	2714.80237	21.086	0.251	2714.80306	7.986	0.879	20.897	19.952	B
(95626) 2002 GZ32	2714.80709	19.470	0.234	2714.80778	6.370	0.879	20.897	19.952	I
(95626) 2002 GZ32	2724.73947	20.487	0.175	2724.74032	7.390	0.730	20.889	19.926	V
(95626) 2002 GZ32	2724.74164	20.296	0.181	2724.74249	7.199	0.730	20.889	19.926	V
(95626) 2002 GZ32	2724.74658	21.018	0.105	2724.74742	7.921	0.730	20.889	19.926	B
(95626) 2002 GZ32	2724.75132	19.279	0.227	2724.75217	6.182	0.730	20.889	19.926	I
(95626) 2002 GZ32	2728.79490	20.545	0.146	2728.79576	7.449	0.749	20.886	19.924	V
(95626) 2002 GZ32	2728.79707	20.549	0.149	2728.79793	7.453	0.749	20.886	19.924	V
(95626) 2002 GZ32	2728.80200	21.295	0.094	2728.80286	8.199	0.749	20.886	19.924	B
(95626) 2002 GZ32	2728.80674	19.786	0.236	2728.80760	6.690	0.749	20.886	19.924	I
(95626) 2002 GZ32	2730.71854	20.408	0.109	2730.71940	7.312	0.774	20.885	19.924	V
(95626) 2002 GZ32	2730.72071	20.478	0.120	2730.72157	7.382	0.774	20.885	19.924	V

(95626) 2002 GZ32	2730.72564	21.200	0.067	2730.72650	8.104	0.774	20.885	19.924	B
(95626) 2002 GZ32	2730.73037	19.591	0.165	2730.73123	6.495	0.774	20.885	19.924	I
(95626) 2002 GZ32	2732.70360	20.713	0.243	2732.70445	7.617	0.810	20.883	19.926	V
(95626) 2002 GZ32	2732.70577	20.627	0.214	2732.70662	7.531	0.810	20.883	19.926	V
(95626) 2002 GZ32	2732.71071	21.334	0.208	2732.71156	8.238	0.810	20.883	19.926	B
(95626) 2002 GZ32	2732.71545	19.466	0.188	2732.71630	6.370	0.810	20.883	19.926	I
(95626) 2002 GZ32	2736.75075	20.551	0.140	2736.75155	7.454	0.908	20.880	19.933	V
(95626) 2002 GZ32	2736.75292	20.644	0.138	2736.75372	7.547	0.908	20.880	19.933	V
(95626) 2002 GZ32	2736.75786	21.345	0.075	2736.75866	8.248	0.909	20.880	19.933	B
(95626) 2002 GZ32	2736.76258	19.513	0.179	2736.76338	6.416	0.909	20.880	19.933	I
(95626) 2002 GZ32	2738.67993	20.304	0.117	2738.68071	7.207	0.964	20.878	19.938	V
(95626) 2002 GZ32	2738.68210	20.367	0.112	2738.68288	7.270	0.964	20.878	19.938	V
(95626) 2002 GZ32	2738.68703	21.190	0.066	2738.68781	8.093	0.964	20.878	19.938	B
(95626) 2002 GZ32	2738.69176	19.626	0.191	2738.69254	6.529	0.964	20.878	19.938	I
(95626) 2002 GZ32	2740.69956	20.344	0.153	2740.70030	7.247	1.027	20.877	19.945	V
(95626) 2002 GZ32	2740.70173	20.878	0.252	2740.70247	7.781	1.027	20.877	19.945	V
(95626) 2002 GZ32	2740.70666	21.284	0.112	2740.70740	8.187	1.027	20.877	19.945	B
(95626) 2002 GZ32	2742.68422	19.111	0.156	2742.68492	6.013	1.092	20.875	19.952	I
(95626) 2002 GZ32	2750.73193	20.330	0.207	2750.73239	7.228	1.375	20.869	19.993	V
(95626) 2002 GZ32	2750.73904	21.161	0.179	2750.73950	8.059	1.375	20.869	19.993	B
(95626) 2002 GZ32	2750.74377	19.490	0.236	2750.74423	6.388	1.375	20.869	19.993	I
(95626) 2002 GZ32	2752.69364	20.358	0.245	2752.69403	7.255	1.446	20.867	20.005	V
(95626) 2002 GZ32	2752.69581	20.383	0.268	2752.69620	7.280	1.446	20.867	20.005	V
(95626) 2002 GZ32	2752.70075	21.337	0.224	2752.70114	8.234	1.446	20.867	20.006	B
(95626) 2002 GZ32	2756.70047	21.052	0.293	2756.70069	7.946	1.589	20.864	20.034	V
(95626) 2002 GZ32	2756.70263	20.610	0.188	2756.70285	7.504	1.589	20.864	20.034	V
(95626) 2002 GZ32	2760.69639	20.387	0.150	2760.69642	7.278	1.730	20.861	20.067	V
(95626) 2002 GZ32	2760.69856	20.524	0.149	2760.69859	7.415	1.730	20.861	20.067	V
(95626) 2002 GZ32	2760.70350	21.243	0.081	2760.70353	8.134	1.730	20.861	20.067	B
(95626) 2002 GZ32	2760.70824	19.397	0.191	2760.70827	6.288	1.730	20.861	20.067	I
(95626) 2002 GZ32	2762.57349	20.786	0.280	2762.57343	7.675	1.794	20.860	20.083	V
(95626) 2002 GZ32	2762.57842	21.464	0.144	2762.57836	8.353	1.794	20.860	20.083	B
(95626) 2002 GZ32	2764.56554	20.160	0.118	2764.56537	7.047	1.861	20.858	20.102	V
(95626) 2002 GZ32	2764.56761	20.466	0.133	2764.56744	7.353	1.861	20.858	20.102	V
(95626) 2002 GZ32	2764.57264	21.285	0.085	2764.57247	8.172	1.862	20.858	20.102	B
(95626) 2002 GZ32	2764.57737	19.541	0.191	2764.57720	6.428	1.862	20.858	20.102	I
(95626) 2002 GZ32	2777.55524	21.221	0.250	2777.55426	8.094	2.254	20.848	20.242	B
(95626) 2002 GZ32	2777.55996	19.581	0.247	2777.55898	6.454	2.255	20.848	20.242	I
(95626) 2002 GZ32	2782.55506	20.308	0.210	2782.55372	7.175	2.381	20.844	20.305	V
(95626) 2002 GZ32	2782.56216	21.255	0.182	2782.56082	8.122	2.382	20.844	20.305	B
(95626) 2002 GZ32	2793.58659	20.606	0.204	2793.58438	7.458	2.605	20.836	20.454	V
(95626) 2002 GZ32	2793.59370	21.731	0.167	2793.59149	8.583	2.606	20.836	20.454	B
(95626) 2002 GZ32	2794.52967	20.668	0.185	2794.52739	7.519	2.621	20.835	20.468	V
(95626) 2002 GZ32	2794.53183	20.519	0.194	2794.52955	7.370	2.621	20.835	20.468	V
(95626) 2002 GZ32	2794.53675	21.480	0.113	2794.53447	8.331	2.621	20.835	20.468	B
(95626) 2002 GZ32	2818.45073	19.990	0.219	2818.44636	6.805	2.796	20.817	20.828	V
(95626) 2002 GZ32	2818.45289	20.371	0.274	2818.44852	7.186	2.796	20.817	20.828	V
(95626) 2002 GZ32	2818.45783	21.317	0.160	2818.45346	8.132	2.796	20.817	20.828	B
(95626) 2002 GZ32	2820.48895	20.635	0.156	2820.48440	7.447	2.792	20.815	20.860	V
(95626) 2002 GZ32	2820.49112	20.926	0.226	2820.48657	7.738	2.792	20.815	20.860	V

(95626) 2002 GZ32	2820.49605	21.333	0.100	2820.49150 #	8.145	2.792	20.815	20.860	B
(42355)2002 CR46	3402.69755	20.935	0.083	3402.69755	8.607	0.650	17.582	16.616	B
(42355)2002 CR46	3402.70066	20.129	0.076	3402.70066	7.801	0.650	17.582	16.616	V
(42355)2002 CR46	3402.70276	19.190	0.068	3402.70276	6.862	0.650	17.582	16.616	I
(42355)2002 CR46	3404.77591	20.567	0.080	3404.77595	8.240	0.530	17.582	16.609	B
(42355)2002 CR46	3404.78112	19.177	0.073	3404.78116	6.850	0.530	17.582	16.609	I
(42355)2002 CR46	3406.78207	20.834	0.052	3406.78215	8.508	0.414	17.581	16.603	B
(42355)2002 CR46	3406.78519	20.084	0.065	3406.78527	7.758	0.414	17.581	16.603	V
(42355)2002 CR46	3406.78729	19.097	0.069	3406.78737	6.771	0.414	17.581	16.603	I
(42355)2002 CR46	3408.79012	20.787	0.048	3408.79022	8.461	0.298	17.581	16.598	B
(42355)2002 CR46	3408.79324	20.076	0.064	3408.79334	7.750	0.298	17.581	16.598	V
(42355)2002 CR46	3408.79535	19.151	0.073	3408.79545	6.825	0.298	17.581	16.598	I
(42355)2002 CR46	3410.75299	20.757	0.046	3410.75311	8.432	0.188	17.581	16.595	B
(42355)2002 CR46	3410.75610	20.021	0.060	3410.75622	7.696	0.188	17.581	16.595	V
(42355)2002 CR46	3410.75819	19.082	0.064	3410.75831	6.757	0.188	17.581	16.595	I
(42355)2002 CR46	3432.69417	20.914	0.078	3432.69403	8.584	1.103	17.575	16.641	B
(42355)2002 CR46	3432.69728	20.021	0.072	3432.69714	7.691	1.103	17.575	16.641	V
(42355)2002 CR46	3432.69939	19.040	0.070	3432.69924	6.710	1.103	17.575	16.641	I
(42355)2002 CR46	3434.71475	21.080	0.064	3434.71454	8.748	1.214	17.575	16.653	B
(42355)2002 CR46	3434.71786	20.159	0.069	3434.71765	7.827	1.214	17.575	16.653	V
(42355)2002 CR46	3434.71995	19.188	0.074	3434.71974	6.856	1.214	17.575	16.653	I
(42355)2002 CR46	3445.69028	21.089	0.056	3445.68959	8.747	1.785	17.573	16.735	B
(42355)2002 CR46	3445.69339	20.320	0.074	3445.69270	7.978	1.785	17.573	16.735	V
(42355)2002 CR46	3445.69550	19.378	0.076	3445.69481	7.036	1.785	17.573	16.735	I
(42355)2002 CR46	3447.59513	21.104	0.111	3447.59434	8.760	1.877	17.572	16.752	B
(42355)2002 CR46	3447.59824	20.128	0.106	3447.59745	7.784	1.878	17.572	16.752	V
(42355)2002 CR46	3447.60035	19.289	0.106	3447.59956	6.945	1.878	17.572	16.752	I
(42355)2002 CR46	3449.66699	21.472	0.232	3449.66609	9.125	1.975	17.572	16.772	B
(42355)2002 CR46	3449.67009	20.643	0.229	3449.66919	8.296	1.975	17.572	16.772	V
(42355)2002 CR46	3453.62678	20.728	0.230	3453.62564	8.376	2.155	17.571	16.813	B
(42355)2002 CR46	3453.62984	20.226	0.294	3453.62870	7.874	2.155	17.571	16.813	V
(42355)2002 CR46	3453.63187	19.276	0.240	3453.63073	6.924	2.155	17.571	16.813	I
(42355)2002 CR46	3458.61858	21.032	0.186	3458.61711	8.673	2.365	17.570	16.870	B
(42355)2002 CR46	3458.62159	20.244	0.162	3458.62012	7.885	2.365	17.570	16.870	V
(42355)2002 CR46	3458.62359	19.472	0.136	3458.62212	7.113	2.365	17.570	16.870	I
(42355)2002 CR46	3460.55956	21.065	0.069	3460.55796	8.703	2.441	17.569	16.894	B
(42355)2002 CR46	3460.56259	20.328	0.090	3460.56099	7.966	2.441	17.569	16.894	V
(42355)2002 CR46	3460.56462	19.423	0.107	3460.56302	7.061	2.441	17.569	16.894	I
(42355)2002 CR46	3464.55503	21.142	0.087	3464.55313	8.773	2.590	17.569	16.944	B
(42355)2002 CR46	3464.55807	20.348	0.116	3464.55617	7.979	2.590	17.569	16.944	V
(42355)2002 CR46	3464.56010	19.438	0.114	3464.55820	7.069	2.590	17.569	16.944	I
(42355)2002 CR46	3466.52269	21.081	0.074	3466.52064	8.709	2.658	17.568	16.970	B
(42355)2002 CR46	3466.52573	20.359	0.101	3466.52368	7.987	2.658	17.568	16.970	V
(42355)2002 CR46	3466.52776	19.519	0.123	3466.52571	7.147	2.658	17.568	16.970	I
(42355)2002 CR46	3468.56894	21.099	0.064	3468.56673	8.723	2.726	17.568	16.998	B
(42355)2002 CR46	3468.57197	20.419	0.084	3468.56976	8.043	2.726	17.568	16.998	V
(42355)2002 CR46	3468.57399	19.290	0.085	3468.57178	6.914	2.726	17.568	16.998	I
(42355)2002 CR46	3470.56762	21.245	0.063	3470.56525	8.866	2.788	17.567	17.026	B
(42355)2002 CR46	3470.57066	20.439	0.083	3470.56829	8.060	2.788	17.567	17.026	V

(42355)2002 CR46	3470.57269	19.615	0.108	3470.57032	7.236	2.788	17.567	17.026	I
(42355)2002 CR46	3474.57005	21.344	0.121	3474.56735	8.958	2.903	17.566	17.083	B
(42355)2002 CR46	3474.57310	20.521	0.118	3474.57040	8.135	2.903	17.566	17.083	V
(42355)2002 CR46	3474.57513	19.666	0.159	3474.57243	7.280	2.903	17.566	17.083	I
				#					
(54598) Bienor	2845.85807	21.736	0.115	2845.85807	9.036	2.145	18.996	18.256	B
(54598) Bienor	2845.86349	19.761	0.164	2845.86349	7.061	2.145	18.996	18.256	I
(54598) Bienor	2845.86649	20.623	0.137	2845.86649	7.923	2.145	18.996	18.256	V
(54598) Bienor	2846.87812	21.139	0.165	2846.87819	8.440	2.106	18.996	18.244	B
(54598) Bienor	2847.87541	21.184	0.138	2847.87555	8.487	2.068	18.995	18.232	B
(54598) Bienor	2847.88084	19.348	0.265	2847.88098	6.651	2.067	18.995	18.232	I
(54598) Bienor	2856.79604	21.581	0.082	2856.79673	8.895	1.696	18.991	18.137	B
(54598) Bienor	2856.80147	19.918	0.145	2856.80216	7.232	1.696	18.991	18.137	I
(54598) Bienor	2856.80448	20.772	0.118	2856.80517	8.086	1.696	18.991	18.137	V
(54598) Bienor	2857.83305	21.195	0.036	2857.83379	8.511	1.650	18.990	18.127	B
(54598) Bienor	2857.83848	19.578	0.075	2857.83922	6.894	1.650	18.990	18.127	I
(54598) Bienor	2857.84150	20.216	0.201	2857.84224	7.532	1.650	18.990	18.127	V
(54598) Bienor	2859.83702	21.577	0.085	2859.83787	8.895	1.559	18.989	18.109	B
(54598) Bienor	2859.84245	20.122	0.110	2859.84330	7.440	1.559	18.989	18.109	I
(54598) Bienor	2859.84546	20.576	0.229	2859.84631	7.894	1.559	18.989	18.109	V
(54598) Bienor	2860.86391	21.080	0.080	2860.86481	8.399	1.512	18.989	18.100	B
(54598) Bienor	2860.86933	19.402	0.085	2860.87023	6.721	1.512	18.989	18.100	I
(54598) Bienor	2860.87235	20.456	0.106	2860.87325	7.775	1.512	18.989	18.100	V
(54598) Bienor	2862.82118	19.571	0.092	2862.82217	6.892	1.421	18.988	18.084	I
(54598) Bienor	2862.82420	20.774	0.198	2862.82519	8.095	1.421	18.988	18.083	V
(54598) Bienor	2863.79662	19.793	0.156	2863.79766	7.115	1.375	18.987	18.076	I
(54598) Bienor	2863.79968	20.337	0.185	2863.80072	7.659	1.375	18.987	18.076	V
(54598) Bienor	2867.77607	21.103	0.089	2867.77728	8.429	1.183	18.985	18.047	B
(54598) Bienor	2867.78153	19.589	0.086	2867.78274	6.915	1.182	18.985	18.047	I
(54598) Bienor	2867.78459	20.329	0.111	2867.78580	7.655	1.182	18.985	18.047	V
(54598) Bienor	2868.74981	21.108	0.083	2868.75105	8.435	1.135	18.985	18.040	B
(54598) Bienor	2868.76172	19.610	0.113	2868.76296	6.937	1.134	18.985	18.040	I
(54598) Bienor	2868.76477	20.552	0.185	2868.76601	7.879	1.134	18.985	18.040	V
(54598) Bienor	2869.74702	21.402	0.101	2869.74830	8.730	1.085	18.984	18.034	B
(54598) Bienor	2869.75248	19.635	0.077	2869.75376	6.963	1.085	18.984	18.034	I
(54598) Bienor	2869.75554	20.667	0.101	2869.75682	7.995	1.085	18.984	18.034	V
(54598) Bienor	2870.76395	19.442	0.213	2870.76527	6.770	1.035	18.984	18.028	I
(54598) Bienor	2874.78265	21.190	0.049	2874.78409	8.521	0.832	18.982	18.006	B
(54598) Bienor	2874.78812	19.627	0.081	2874.78956	6.958	0.831	18.982	18.006	I
(54598) Bienor	2874.79117	20.489	0.073	2874.79261	7.820	0.831	18.982	18.006	V
(54598) Bienor	2878.74655	21.151	0.111	2878.74809	8.484	0.629	18.980	17.990	B
(54598) Bienor	2878.75197	19.461	0.156	2878.75351	6.794	0.629	18.980	17.990	I
(54598) Bienor	2878.75502	20.558	0.115	2878.75656	7.891	0.628	18.980	17.990	V
(54598) Bienor	2895.69872	20.839	0.085	2895.70036	8.176	0.327	18.972	17.971	B
(54598) Bienor	2895.70418	19.561	0.082	2895.70582	6.898	0.327	18.972	17.971	I
(54598) Bienor	2895.70724	20.332	0.106	2895.70888	7.669	0.327	18.972	17.971	V
(54598) Bienor	2897.70524	21.676	0.159	2897.70686	9.012	0.426	18.971	17.975	B
(54598) Bienor	2897.71071	19.431	0.080	2897.71233	6.767	0.426	18.971	17.975	I
(54598) Bienor	2897.71377	20.363	0.109	2897.71539	7.699	0.426	18.971	17.975	V
(54598) Bienor	2901.71046	21.061	0.099	2901.71202	8.396	0.630	18.969	17.985	B

(54598) Bienor	2901.71593	19.309	0.110	2901.71749	6.644	0.630	18.969	17.985	I
(54598) Bienor	2901.71899	20.186	0.101	2901.72055	7.521	0.630	18.969	17.985	V
(54598) Bienor	2903.72281	21.021	0.077	2903.72433	8.355	0.733	18.968	17.992	B
(54598) Bienor	2907.67444	21.128	0.028	2907.67586	8.461	0.934	18.966	18.010	B
(54598) Bienor	2907.67991	19.467	0.050	2907.68133	6.800	0.934	18.966	18.010	I
(54598) Bienor	2907.68297	20.310	0.048	2907.68439	7.643	0.935	18.966	18.010	V
(54598) Bienor	2911.68028	20.862	0.039	2911.68157	8.192	1.134	18.964	18.032	B
(54598) Bienor	2911.68624	19.385	0.060	2911.68753	6.715	1.135	18.964	18.032	I
(54598) Bienor	2911.68950	20.299	0.066	2911.69079	7.629	1.135	18.964	18.032	V
(54598) Bienor	2912.69604	20.343	0.281	2912.69730	7.672	1.184	18.963	18.038	V
(54598) Bienor	2915.66389	21.187	0.077	2915.66503	8.514	1.328	18.962	18.059	B
(54598) Bienor	2915.66935	19.546	0.080	2915.67049	6.873	1.328	18.962	18.059	I
(54598) Bienor	2915.67241	20.420	0.077	2915.67355	7.747	1.329	18.962	18.059	V
(54598) Bienor	2916.67266	21.027	0.098	2916.67376	8.353	1.376	18.961	18.066	B
(54598) Bienor	2916.67812	19.037	0.064	2916.67922	6.363	1.376	18.961	18.066	I
(54598) Bienor	2918.64149	19.664	0.141	2918.64250	6.989	1.469	18.960	18.081	I
(54598) Bienor	2918.64454	20.360	0.205	2918.64555	7.685	1.469	18.960	18.081	V
(54598) Bienor	2924.64943	21.027	0.133	2924.65013	8.346	1.739	18.957	18.134	B
(54598) Bienor	2924.65794	20.540	0.156	2924.65864	7.859	1.739	18.957	18.134	V
(54598) Bienor	2928.60990	19.329	0.124	2928.61037	6.643	1.906	18.955	18.174	I
(54598) Bienor	2928.61295	20.173	0.166	2928.61342	7.487	1.906	18.955	18.174	V
(54598) Bienor	2940.59591	20.738	0.101	2940.59556	8.036	2.350	18.949	18.316	B
(54598) Bienor	2940.60138	19.563	0.073	2940.60103	6.861	2.350	18.949	18.316	I
(54598) Bienor	2940.60443	20.353	0.163	2940.60408	7.651	2.350	18.949	18.316	V
(54598) Bienor	2944.60539	21.413	0.082	2944.60473	8.705	2.475	18.947	18.370	B
(54598) Bienor	2944.61085	19.737	0.101	2944.61019	7.029	2.475	18.947	18.370	I
(54598) Bienor	2944.61391	20.479	0.232	2944.61325	7.771	2.475	18.947	18.370	V
(54598) Bienor	2945.55460	21.382	0.132	2945.55387	8.672	2.503	18.947	18.383	B
(54598) Bienor	2945.56007	19.713	0.133	2945.55933	7.003	2.503	18.947	18.383	I
(54598) Bienor	2945.56312	20.402	0.135	2945.56238	7.692	2.503	18.947	18.383	V
(54598) Bienor	2946.59093	21.520	0.207	2946.59011	8.809	2.532	18.946	18.398	B
(54598) Bienor	2946.59640	19.797	0.210	2946.59558	7.086	2.532	18.946	18.398	I
(54598) Bienor	2946.59946	20.717	0.254	2946.59864	8.006	2.532	18.946	18.398	V
(54598) Bienor	2949.57597	21.231	0.160	2949.57490	8.515	2.612	18.945	18.440	B
(54598) Bienor	2949.58143	19.914	0.160	2949.58036	7.198	2.612	18.945	18.440	I
(54598) Bienor	2949.58449	20.397	0.163	2949.58342	7.681	2.612	18.945	18.441	V
(54598) Bienor	2950.58527	21.462	0.174	2950.58412	8.744	2.637	18.944	18.455	B
(54598) Bienor	2950.59072	19.856	0.140	2950.58957	7.138	2.638	18.944	18.455	I
(54598) Bienor	2950.59378	20.555	0.162	2950.59263	7.837	2.638	18.944	18.455	V
(54598) Bienor	2951.59745	21.548	0.246	2951.59621	8.828	2.662	18.944	18.470	B
(54598) Bienor	2951.60291	20.249	0.211	2951.60167	7.529	2.662	18.944	18.470	I
(54598) Bienor	2951.60597	20.585	0.215	2951.60473	7.865	2.662	18.944	18.470	V
(54598) Bienor	2952.56317	21.456	0.044	2952.56185	8.735	2.685	18.944	18.485	B
(54598) Bienor	2952.56864	19.918	0.092	2952.56732	7.197	2.685	18.944	18.485	I
(54598) Bienor	2952.57169	20.705	0.080	2952.57037	7.984	2.685	18.944	18.485	V
(54598) Bienor	2953.56360	21.156	0.101	2953.56219	8.433	2.707	18.943	18.500	B
(54598) Bienor	2953.56906	19.783	0.140	2953.56765	7.060	2.707	18.943	18.500	I
(54598) Bienor	2953.57211	20.557	0.158	2953.57070	7.834	2.707	18.943	18.500	V
(54598) Bienor	2953.85712	19.898	0.145	2953.85569	7.174	2.714	18.943	18.504	I
(54598) Bienor	2953.85724	20.627	0.158	2953.85581	7.903	2.714	18.943	18.504	V

(54598) Bienor	2953.85990	21.666	0.149	2953.85847	8.942	2.714	18.943	18.504	B
(54598) Bienor	2957.56864	21.353	0.042	2957.56688	8.623	2.789	18.941	18.561	B
(54598) Bienor	2957.57410	19.785	0.085	2957.57234	7.055	2.789	18.941	18.561	I
(54598) Bienor	2957.57716	20.540	0.074	2957.57540	7.810	2.789	18.941	18.561	V
(54598) Bienor	2963.54620	21.274	0.089	2963.54389	8.533	2.885	18.938	18.656	B
(54598) Bienor	2963.55165	19.753	0.155	2963.54934	7.012	2.885	18.938	18.656	I
(54598) Bienor	2963.55470	20.696	0.071	2963.55239	7.955	2.885	18.938	18.656	V
(54598) Bienor	3634.70550	20.513	0.103	3634.70940	7.943	0.453	18.573	17.580	B
(54598) Bienor	3634.70957	20.922	0.139	3634.71347	8.352	0.453	18.573	17.580	B
(54598) Bienor	3634.71298	20.182	0.108	3634.71688	7.612	0.453	18.573	17.580	V
(54598) Bienor	3634.71570	19.141	0.065	3634.71960	6.571	0.453	18.573	17.580	I
(54598) Bienor	3651.62553	21.124	0.069	3651.62904	8.547	1.262	18.563	17.648	B
(54598) Bienor	3651.62959	21.244	0.071	3651.63310	8.667	1.263	18.563	17.648	B
(54598) Bienor	3651.63300	20.320	0.063	3651.63651	7.743	1.263	18.563	17.648	V
(54598) Bienor	3651.63572	19.587	0.072	3651.63923	7.010	1.263	18.563	17.648	I
(54598) Bienor	3657.71184	20.651	0.231	3657.71509	8.069	1.552	18.560	17.693	B
(54598) Bienor	3657.71588	20.802	0.256	3657.71913	8.220	1.552	18.560	17.693	B
(54598) Bienor	3657.72201	19.675	0.223	3657.72526	7.093	1.552	18.560	17.693	I
(54598) Bienor	3668.56620	21.147	0.061	3668.56886	8.553	2.025	18.553	17.796	B
(54598) Bienor	3668.57025	21.195	0.065	3668.57291	8.601	2.025	18.553	17.796	B
(54598) Bienor	3668.57366	20.319	0.059	3668.57632	7.725	2.025	18.553	17.796	V
(54598) Bienor	3668.57638	19.601	0.077	3668.57904	7.007	2.025	18.553	17.796	I
(54598) Bienor	3670.54999	21.363	0.092	3670.55252	8.767	2.104	18.552	17.817	B
(54598) Bienor	3670.55404	21.311	0.088	3670.55657	8.715	2.104	18.552	17.818	B
(54598) Bienor	3670.55745	20.575	0.095	3670.55998	7.979	2.104	18.552	17.818	V
(54598) Bienor	3670.56018	19.518	0.098	3670.56271	6.922	2.104	18.552	17.818	I
(54598) Bienor	3673.54866	21.198	0.065	3673.55099	8.598	2.218	18.551	17.852	B
(54598) Bienor	3673.55271	21.228	0.063	3673.55504	8.628	2.218	18.551	17.852	B
(54598) Bienor	3673.55612	20.580	0.076	3673.55845	7.980	2.218	18.551	17.852	V
(54598) Bienor	3673.55885	19.630	0.089	3673.56118	7.030	2.218	18.551	17.852	I
(54598) Bienor	3675.61801	21.079	0.050	3675.62020	8.476	2.293	18.549	17.877	B
(54598) Bienor	3675.62207	21.097	0.050	3675.62426	8.494	2.293	18.549	17.877	B
(54598) Bienor	3677.58397	21.235	0.055	3677.58601	8.629	2.362	18.548	17.902	B
(54598) Bienor	3677.58802	21.287	0.057	3677.59006	8.681	2.362	18.548	17.902	B
(54598) Bienor	3677.59142	20.567	0.065	3677.59346	7.961	2.362	18.548	17.902	V
(54598) Bienor	3677.59416	19.534	0.078	3677.59620	6.928	2.362	18.548	17.902	I
(54598) Bienor	3680.58768	21.265	0.086	3680.58950	8.654	2.461	18.546	17.941	B
(54598) Bienor	3680.59172	21.142	0.097	3680.59354	8.531	2.461	18.546	17.941	B
(54598) Bienor	3680.59512	20.506	0.100	3680.59694	7.895	2.461	18.546	17.941	V
(54598) Bienor	3682.54968	21.030	0.095	3682.55135	8.416	2.522	18.545	17.967	B
(54598) Bienor	3682.55372	21.247	0.128	3682.55539	8.633	2.522	18.545	17.967	B
(54598) Bienor	3682.55712	20.403	0.094	3682.55879	7.789	2.522	18.545	17.967	V
(54598) Bienor	3682.55985	19.646	0.106	3682.56152	7.032	2.522	18.545	17.967	I
(54598) Bienor	3687.55280	21.116	0.242	3687.55406	8.494	2.663	18.542	18.037	B
(54598) Bienor	3687.55686	21.221	0.283	3687.55812	8.599	2.663	18.542	18.037	B
(54598) Bienor	3687.56298	19.740	0.256	3687.56424	7.118	2.663	18.542	18.038	I
(54598) Bienor	3689.55069	20.881	0.189	3689.55178	8.256	2.713	18.541	18.067	B
(54598) Bienor	3689.55474	20.806	0.185	3689.55583	8.181	2.713	18.541	18.067	B
(54598) Bienor	3689.55814	20.330	0.159	3689.55923	7.705	2.713	18.541	18.067	V
(54598) Bienor	3689.56087	19.330	0.099	3689.56196	6.705	2.714	18.541	18.067	I

(54598) Bienor	3693.52997	21.336	0.071	3693.53072	8.704	2.804	18.539	18.126	B
(54598) Bienor	3693.53402	21.230	0.064	3693.53477	8.598	2.804	18.539	18.126	B
(54598) Bienor	3693.53740	20.469	0.067	3693.53815	7.837	2.804	18.539	18.126	V
(54598) Bienor	3693.54013	19.588	0.095	3693.54088	6.956	2.804	18.539	18.126	I
(54598) Bienor	3700.60237	21.204	0.081	3700.60248	8.559	2.930	18.535	18.236	B
(54598) Bienor	3700.60641	21.209	0.079	3700.60652	8.564	2.930	18.535	18.236	B
(54598) Bienor	3700.60980	20.374	0.073	3700.60991	7.729	2.930	18.535	18.236	V
(54598) Bienor	3700.61252	19.564	0.107	3700.61263	6.919	2.930	18.535	18.236	I
(54598) Bienor	3702.54609	21.215	0.061	3702.54602	8.567	2.956	18.533	18.267	B
(54598) Bienor	3702.55017	21.086	0.056	3702.55010	8.438	2.956	18.533	18.268	B
(54598) Bienor	3702.55358	20.468	0.062	3702.55351	7.820	2.956	18.533	18.268	V
(54598) Bienor	3702.55633	19.681	0.085	3702.55626	7.033	2.956	18.533	18.268	I
(54598) Bienor	3704.56765	21.663	0.097	3704.56739	9.011	2.980	18.532	18.300	B
(54598) Bienor	3704.57172	21.530	0.084	3704.57146	8.878	2.980	18.532	18.300	B
(54598) Bienor	3704.57513	20.749	0.085	3704.57487	8.097	2.980	18.532	18.300	V
(54598) Bienor	3704.57788	19.734	0.111	3704.57762	7.082	2.980	18.532	18.300	I
(54598) Bienor	3707.56102	20.380	0.100	3707.56048	7.723	3.009	18.530	18.349	V
(54598) Bienor	3707.56377	19.569	0.114	3707.56323	6.912	3.009	18.530	18.349	I
(54598) Bienor	3709.54831	21.343	0.103	3709.54758	8.682	3.023	18.529	18.382	B
(54598) Bienor	3709.55241	21.309	0.130	3709.55168	8.648	3.024	18.529	18.382	B
(54598) Bienor	3709.55585	20.837	0.191	3709.55512	8.176	3.024	18.529	18.382	V
(54598) Bienor	3711.54664	21.251	0.151	3711.54572	8.586	3.034	18.528	18.415	B
(54598) Bienor	3711.55072	21.064	0.128	3711.54980	8.399	3.034	18.528	18.415	B
(54598) Bienor	3711.55413	20.136	0.097	3711.55321	7.471	3.034	18.528	18.415	V
(54598) Bienor	3711.55688	19.646	0.117	3711.55596	6.981	3.034	18.528	18.415	I
(54598) Bienor	3713.53174	20.419	0.259	3713.53063	7.750	3.041	18.527	18.448	V
(54598) Bienor	3715.57393	20.900	0.217	3715.57263	8.227	3.045	18.526	18.481	B
(54598) Bienor	3715.57734	20.409	0.170	3715.57604	7.736	3.045	18.526	18.481	V
(54598) Bienor	3715.58010	19.890	0.188	3715.57880	7.217	3.045	18.526	18.482	I
(54598) Bienor	3717.54132	20.756	0.259	3717.53983	8.080	3.045	18.524	18.514	V
(54598) Bienor	3717.54411	20.068	0.228	3717.54262	7.392	3.045	18.524	18.514	I
(54598) Bienor	3721.54515	21.546	0.158	3721.54328	8.862	3.034	18.522	18.580	B
(54598) Bienor	3721.54926	21.260	0.131	3721.54739	8.576	3.034	18.522	18.580	B
(54598) Bienor	3721.55270	20.533	0.117	3721.55082	7.849	3.034	18.522	18.581	V
(54598) Bienor	3721.55548	20.075	0.199	3721.55360	7.391	3.034	18.522	18.581	I
				#					
(73480) 2002 PN34	2733.90188	20.328	0.261	2733.90188	8.967	3.715	13.451	13.912	V
(73480) 2002 PN34	2733.90713	20.963	0.136	2733.90713	9.602	3.716	13.451	13.912	B
(73480) 2002 PN34	2733.91048	19.296	0.264	2733.91048	7.935	3.716	13.451	13.912	I
(73480) 2002 PN34	2735.89257	20.273	0.162	2735.89273	8.917	3.783	13.452	13.884	V
(73480) 2002 PN34	2735.89427	20.331	0.170	2735.89443	8.975	3.783	13.452	13.884	V
(73480) 2002 PN34	2735.89782	21.057	0.095	2735.89798	9.701	3.783	13.452	13.884	B
(73480) 2002 PN34	2735.90116	19.090	0.186	2735.90132	7.734	3.783	13.452	13.884	I
(73480) 2002 PN34	2737.89428	20.339	0.177	2737.89461	8.987	3.847	13.453	13.855	V
(73480) 2002 PN34	2737.89598	20.015	0.143	2737.89631	8.663	3.847	13.453	13.855	V
(73480) 2002 PN34	2737.89952	21.101	0.101	2737.89985	9.749	3.847	13.453	13.855	B
(73480) 2002 PN34	2737.90287	19.128	0.185	2737.90320	7.776	3.847	13.453	13.855	I
(73480) 2002 PN34	2739.87920	20.416	0.212	2739.87970	9.068	3.906	13.453	13.826	V
(73480) 2002 PN34	2739.88090	19.997	0.139	2739.88140	8.649	3.906	13.453	13.826	V
(73480) 2002 PN34	2739.88445	21.177	0.118	2739.88495	9.829	3.906	13.453	13.826	B

(73480) 2002 PN34	2739.88779	19.105	0.205	2739.88829	7.757	3.906	13.453	13.826	I
(73480) 2002 PN34	2741.89207	20.370	0.165	2741.89274	9.027	3.962	13.454	13.797	V
(73480) 2002 PN34	2741.89378	20.183	0.138	2741.89445	8.840	3.962	13.454	13.797	V
(73480) 2002 PN34	2741.89732	21.026	0.092	2741.89799	9.683	3.962	13.454	13.796	B
(73480) 2002 PN34	2741.90066	19.453	0.262	2741.90133	8.110	3.963	13.454	13.796	I
(73480) 2002 PN34	2751.89042	20.103	0.214	2751.89198	8.783	4.180	13.459	13.643	V
(73480) 2002 PN34	2751.89212	20.142	0.230	2751.89368	8.822	4.180	13.459	13.643	V
(73480) 2002 PN34	2751.89567	20.964	0.171	2751.89723	9.644	4.180	13.459	13.643	B
(73480) 2002 PN34	2751.89902	19.167	0.267	2751.90058	7.847	4.180	13.459	13.643	I
(73480) 2002 PN34	2757.90198	20.295	0.174	2757.90409	8.990	4.258	13.462	13.548	V
(73480) 2002 PN34	2757.90369	20.142	0.126	2757.90580	8.837	4.258	13.462	13.548	V
(73480) 2002 PN34	2757.90723	21.164	0.099	2757.90934	9.859	4.258	13.462	13.548	B
(73480) 2002 PN34	2757.91058	19.467	0.291	2757.91269	8.162	4.258	13.462	13.548	I
(73480) 2002 PN34	2759.91849	20.287	0.269	2759.92078	8.987	4.275	13.463	13.515	V
(73480) 2002 PN34	2759.92020	20.309	0.277	2759.92249	9.009	4.275	13.463	13.515	V
(73480) 2002 PN34	2759.92374	21.006	0.254	2759.92603	9.706	4.275	13.463	13.515	B
(73480) 2002 PN34	2763.78436	19.896	0.179	2763.78701	8.606	4.295	13.465	13.453	V
(73480) 2002 PN34	2763.78607	20.009	0.151	2763.78872	8.719	4.295	13.465	13.453	V
(73480) 2002 PN34	2763.78962	20.882	0.093	2763.79227	9.592	4.295	13.465	13.453	B
(73480) 2002 PN34	2763.79296	18.814	0.185	2763.79561	7.524	4.295	13.465	13.453	I
(73480) 2002 PN34	2765.83966	20.174	0.132	2765.84250	8.889	4.298	13.466	13.420	V
(73480) 2002 PN34	2765.84136	20.128	0.131	2765.84420	8.843	4.298	13.466	13.420	V
(73480) 2002 PN34	2765.84490	20.843	0.073	2765.84774	9.558	4.298	13.466	13.420	B
(73480) 2002 PN34	2765.84824	18.934	0.166	2765.85108	7.649	4.298	13.466	13.420	I
(73480) 2002 PN34	2787.87286	19.992	0.100	2787.87770	8.762	4.018	13.477	13.074	V
(73480) 2002 PN34	2787.87456	20.118	0.110	2787.87940	8.888	4.018	13.477	13.074	V
(73480) 2002 PN34	2787.88145	19.139	0.163	2787.88629	7.909	4.018	13.477	13.074	I
(73480) 2002 PN34	2789.86640	20.004	0.142	2789.87141	8.779	3.964	13.478	13.045	V
(73480) 2002 PN34	2789.86811	20.050	0.146	2789.87312	8.825	3.964	13.478	13.045	V
(73480) 2002 PN34	2789.87165	20.890	0.089	2789.87666	9.665	3.964	13.478	13.045	B
(73480) 2002 PN34	2789.87499	19.081	0.195	2789.88000	7.856	3.964	13.478	13.045	I
(73480) 2002 PN34	2791.81765	19.877	0.104	2791.82283	8.656	3.907	13.479	13.016	V
(73480) 2002 PN34	2791.81936	19.920	0.110	2791.82454	8.699	3.907	13.479	13.016	V
(73480) 2002 PN34	2791.82290	20.906	0.078	2791.82808	9.685	3.907	13.479	13.016	B
(73480) 2002 PN34	2791.82625	19.179	0.185	2791.83143	7.958	3.907	13.479	13.016	I
(73480) 2002 PN34	2793.89484	20.462	0.099	2793.90019	9.246	3.842	13.480	12.987	B
(73480) 2002 PN34	2812.86608	20.179	0.216	2812.87282	9.002	3.026	13.491	12.745	V
(73480) 2002 PN34	2812.86779	19.902	0.154	2812.87453	8.725	3.026	13.491	12.745	V
(73480) 2002 PN34	2812.87133	20.624	0.102	2812.87807	9.447	3.026	13.491	12.745	B
(73480) 2002 PN34	2812.87468	18.898	0.194	2812.88142	7.721	3.025	13.491	12.745	I
(73480) 2002 PN34	2816.85300	19.903	0.103	2816.85998	8.733	2.809	13.493	12.703	V
(73480) 2002 PN34	2816.85471	19.937	0.113	2816.86169	8.767	2.809	13.493	12.703	V
(73480) 2002 PN34	2816.85825	20.831	0.069	2816.86523	9.661	2.809	13.493	12.703	B
(73480) 2002 PN34	2816.86160	18.827	0.197	2816.86858	7.657	2.808	13.493	12.703	I
(73480) 2002 PN34	2818.87715	19.947	0.108	2818.88425	8.780	2.693	13.494	12.683	V
(73480) 2002 PN34	2818.87885	19.991	0.115	2818.88595	8.824	2.693	13.494	12.683	V
(73480) 2002 PN34	2818.88239	20.798	0.067	2818.88949	9.631	2.693	13.494	12.683	B
(73480) 2002 PN34	2818.88573	18.940	0.170	2818.89283	7.773	2.693	13.494	12.683	I
(73480) 2002 PN34	2820.85760	19.971	0.112	2820.86481	8.807	2.577	13.495	12.664	V
(73480) 2002 PN34	2820.85930	19.900	0.110	2820.86651	8.736	2.577	13.495	12.664	V

(73480) 2002 PN34	2820.86285	20.799	0.074	2820.87006	9.635	2.577	13.495	12.664	B
(73480) 2002 PN34	2820.86619	18.871	0.172	2820.87340	7.707	2.577	13.495	12.664	I
(73480) 2002 PN34	2831.82655	19.687	0.154	2831.83426	8.537	1.882	13.501	12.578	V
(73480) 2002 PN34	2831.82825	19.956	0.194	2831.83596	8.806	1.882	13.501	12.578	V
(73480) 2002 PN34	2831.83179	20.513	0.141	2831.83950	9.363	1.881	13.501	12.578	B
(73480) 2002 PN34	2831.83513	18.612	0.131	2831.84284	7.462	1.881	13.501	12.578	I
(73480) 2002 PN34	2832.77945	19.786	0.187	2832.78719	8.637	1.818	13.502	12.572	V
(73480) 2002 PN34	2832.78116	20.212	0.271	2832.78890	9.063	1.818	13.502	12.572	V
(73480) 2002 PN34	2832.78470	20.736	0.197	2832.79244	9.587	1.818	13.502	12.572	B
(73480) 2002 PN34	2832.78805	19.017	0.205	2832.79579	7.868	1.817	13.502	12.572	I
(73480) 2002 PN34	2840.83688	19.629	0.156	2840.84486	8.486	1.264	13.506	12.531	V
(73480) 2002 PN34	2840.83858	19.783	0.155	2840.84656	8.640	1.264	13.506	12.531	V
(73480) 2002 PN34	2840.84213	20.551	0.124	2840.85011	9.408	1.263	13.506	12.531	B
(73480) 2002 PN34	2840.84547	18.584	0.145	2840.85345	7.441	1.263	13.506	12.531	I
(73480) 2002 PN34	2843.80951	19.633	0.070	2843.81755	8.492	1.056	13.508	12.520	V
(73480) 2002 PN34	2843.81237	19.781	0.090	2843.82041	8.640	1.056	13.508	12.520	V
(73480) 2002 PN34	2843.81939	20.702	0.069	2843.82743	9.561	1.055	13.508	12.520	B
(73480) 2002 PN34	2843.82644	18.873	0.100	2843.83448	7.732	1.055	13.508	12.520	I
(73480) 2002 PN34	2844.79614	19.815	0.062	2844.80420	8.674	0.987	13.508	12.517	V
(73480) 2002 PN34	2844.79900	19.530	0.049	2844.80706	8.389	0.987	13.508	12.517	V
(73480) 2002 PN34	2844.80602	20.751	0.046	2844.81408	9.610	0.986	13.508	12.517	B
(73480) 2002 PN34	2844.81306	18.749	0.084	2844.82112	7.608	0.986	13.508	12.517	I
(73480) 2002 PN34	2846.82155	19.878	0.177	2846.82964	8.738	0.847	13.509	12.512	V
(73480) 2002 PN34	2846.82442	20.012	0.215	2846.83251	8.872	0.847	13.509	12.512	V
(73480) 2002 PN34	2847.81246	19.804	0.104	2847.82056	8.664	0.779	13.510	12.510	V
(73480) 2002 PN34	2847.81532	19.891	0.130	2847.82342	8.751	0.779	13.510	12.510	V
(73480) 2002 PN34	2847.82235	20.691	0.085	2847.83045	9.551	0.779	13.510	12.510	B
(73480) 2002 PN34	2847.82941	19.134	0.188	2847.83751	7.994	0.778	13.510	12.510	I
(73480) 2002 PN34	2852.81870	19.828	0.036	2852.82684	8.689	0.466	13.513	12.503	V
(73480) 2002 PN34	2852.82156	19.872	0.044	2852.82970	8.733	0.466	13.513	12.503	V
(73480) 2002 PN34	2852.82859	20.761	0.026	2852.83673	9.622	0.465	13.513	12.503	B
(73480) 2002 PN34	2852.83563	18.841	0.043	2852.84377	7.702	0.465	13.513	12.503	I
(73480) 2002 PN34	2853.78078	19.572	0.025	2853.78892	8.433	0.417	13.513	12.503	V
(73480) 2002 PN34	2853.78365	19.696	0.041	2853.79179	8.557	0.417	13.513	12.503	V
(73480) 2002 PN34	2853.79774	18.645	0.036	2853.80588	7.506	0.417	13.513	12.503	I
(73480) 2002 PN34	2857.79803	19.820	0.035	2857.80616	8.681	0.330	13.516	12.504	V
(73480) 2002 PN34	2857.80089	19.865	0.038	2857.80902	8.726	0.330	13.516	12.504	V
(73480) 2002 PN34	2857.80792	20.795	0.028	2857.81605	9.656	0.330	13.516	12.504	B
(73480) 2002 PN34	2857.81496	18.876	0.044	2857.82309	7.737	0.330	13.516	12.504	I
(73480) 2002 PN34	2861.79506	19.795	0.089	2861.80316	8.654	0.475	13.518	12.510	V
(73480) 2002 PN34	2861.79793	19.894	0.098	2861.80603	8.753	0.475	13.518	12.510	V
(73480) 2002 PN34	2861.80496	20.692	0.100	2861.81306	9.551	0.475	13.518	12.510	B
(73480) 2002 PN34	2861.81201	18.822	0.055	2861.82011	7.681	0.476	13.518	12.510	I
(73480) 2002 PN34	2866.75419	19.879	0.153	2866.76221	8.735	0.787	13.521	12.524	V
(73480) 2002 PN34	2866.76125	20.706	0.131	2866.76927	9.562	0.787	13.521	12.524	B
(73480) 2002 PN34	2866.76834	19.047	0.088	2866.77636	7.903	0.787	13.521	12.524	I
(73480) 2002 PN34	2867.73724	19.800	0.049	2867.74524	8.655	0.853	13.522	12.528	V
(73480) 2002 PN34	2867.74011	19.933	0.061	2867.74811	8.788	0.854	13.522	12.528	V
(73480) 2002 PN34	2867.74716	20.783	0.061	2867.75515	9.638	0.854	13.522	12.528	B
(73480) 2002 PN34	2867.75425	18.944	0.042	2867.76224	7.799	0.855	13.522	12.528	I

(73480) 2002 PN34	2875.74405	20.936	0.024	2875.75181	9.784	1.409	13.526	12.568	B
(73480) 2002 PN34	2875.75114	19.036	0.043	2875.75890	7.884	1.409	13.526	12.568	I
(73480) 2002 PN34	2876.70981	19.951	0.037	2876.71754	8.798	1.476	13.527	12.574	V
(73480) 2002 PN34	2876.71268	20.028	0.038	2876.72041	8.875	1.476	13.527	12.574	V
(73480) 2002 PN34	2876.71970	20.906	0.025	2876.72743	9.753	1.476	13.527	12.574	B
(73480) 2002 PN34	2884.68911	20.111	0.035	2884.69649	8.947	2.011	13.532	12.634	V
(73480) 2002 PN34	2884.69200	20.091	0.042	2884.69938	8.927	2.012	13.532	12.634	V
(73480) 2002 PN34	2896.69101	20.025	0.076	2896.69770	8.839	2.741	13.539	12.755	V
(73480) 2002 PN34	2896.69390	20.031	0.078	2896.70059	8.845	2.741	13.539	12.755	V
(73480) 2002 PN34	2896.70097	20.829	0.067	2896.70765	9.643	2.742	13.539	12.755	B
(73480) 2002 PN34	2896.70805	19.043	0.069	2896.71473	7.857	2.742	13.539	12.755	I
(73480) 2002 PN34	2898.67926	20.376	0.079	2898.68581	9.186	2.851	13.540	12.778	V
(73480) 2002 PN34	2898.68922	21.136	0.047	2898.69577	9.946	2.851	13.540	12.778	B
(73480) 2002 PN34	2903.66058	19.917	0.145	2903.66677	8.715	3.109	13.543	12.840	V
(73480) 2002 PN34	2903.66347	20.310	0.154	2903.66966	9.108	3.109	13.543	12.840	V
(73480) 2002 PN34	2903.67053	20.773	0.181	2903.67672	9.571	3.110	13.543	12.840	B
(73480) 2002 PN34	2905.65714	20.039	0.041	2905.66318	8.833	3.206	13.545	12.867	V
(73480) 2002 PN34	2905.66003	20.078	0.045	2905.66607	8.872	3.206	13.545	12.867	V
(73480) 2002 PN34	2905.66710	20.844	0.045	2905.67314	9.638	3.206	13.545	12.867	B
(73480) 2002 PN34	2905.67419	19.095	0.046	2905.68023	7.889	3.207	13.545	12.867	I
(73480) 2002 PN34	2907.65759	20.795	0.028	2907.66347	9.584	3.299	13.546	12.894	B
(73480) 2002 PN34	2907.66467	19.077	0.054	2907.67055	7.866	3.299	13.546	12.894	I
(73480) 2002 PN34	2915.62772	20.007	0.063	2915.63294	8.776	3.627	13.551	13.009	V
(73480) 2002 PN34	2915.63062	19.988	0.067	2915.63584	8.757	3.627	13.551	13.009	V
(73480) 2002 PN34	2915.63768	20.855	0.055	2915.64290	9.624	3.627	13.551	13.009	B
(73480) 2002 PN34	2915.64477	19.072	0.069	2915.64999	7.841	3.627	13.551	13.009	I
(73480) 2002 PN34	2921.61410	19.988	0.101	2921.61878	8.741	3.825	13.555	13.102	V
(73480) 2002 PN34	2921.62117	20.944	0.105	2921.62585	9.697	3.825	13.555	13.102	B
(73480) 2002 PN34	2921.62826	19.062	0.065	2921.63294	7.815	3.826	13.555	13.102	I
(73480) 2002 PN34	2925.62447	20.085	0.088	2925.62878	8.827	3.935	13.557	13.167	V
(73480) 2002 PN34	2925.62737	20.153	0.096	2925.63168	8.895	3.935	13.557	13.167	V
(73480) 2002 PN34	2925.63443	20.880	0.082	2925.63873	9.622	3.935	13.557	13.167	B
(73480) 2002 PN34	2925.64151	19.074	0.066	2925.64581	7.816	3.935	13.557	13.167	I
(73480) 2002 PN34	2928.56754	19.866	0.265	2928.57157	8.599	4.003	13.559	13.215	V
(73480) 2002 PN34	2928.57460	20.861	0.156	2928.57862	9.594	4.003	13.559	13.216	B
(73480) 2002 PN34	2928.58168	18.909	0.190	2928.58570	7.642	4.003	13.559	13.216	I
(73480) 2002 PN34	2929.55769	19.997	0.059	2929.56162	8.728	4.024	13.560	13.232	V
(73480) 2002 PN34	2929.56058	20.093	0.063	2929.56451	8.824	4.024	13.560	13.232	V
(73480) 2002 PN34	2929.56764	20.827	0.045	2929.57157	9.558	4.024	13.560	13.232	B
(73480) 2002 PN34	2929.57473	18.972	0.061	2929.57866	7.703	4.024	13.560	13.232	I
(73480) 2002 PN34	2932.56362	20.288	0.045	2932.56726	9.010	4.079	13.562	13.283	V
(73480) 2002 PN34	2932.56651	20.238	0.045	2932.57015	8.960	4.079	13.562	13.283	V
(73480) 2002 PN34	2932.57358	21.016	0.027	2932.57721	9.738	4.079	13.562	13.283	B
(73480) 2002 PN34	2932.58067	19.382	0.054	2932.58430	8.104	4.079	13.562	13.283	I
(73480) 2002 PN34	2936.59394	20.141	0.197	2936.59718	8.851	4.136	13.564	13.352	V
(73480) 2002 PN34	2936.60101	20.901	0.083	2936.60425	9.611	4.136	13.564	13.352	B
(73480) 2002 PN34	2936.60809	19.228	0.098	2936.61133	7.938	4.136	13.564	13.352	I
(73480) 2002 PN34	2939.57858	20.099	0.044	2939.58152	8.801	4.165	13.566	13.404	V
(73480) 2002 PN34	2939.58147	20.116	0.047	2939.58441	8.818	4.165	13.566	13.404	V
(73480) 2002 PN34	2939.58854	20.984	0.032	2939.59148	9.686	4.165	13.566	13.404	B

(73480) 2002 PN34	2941.55540	20.154	0.057	2941.55814	8.850	4.178	13.568	13.438	V
(73480) 2002 PN34	2941.55830	20.148	0.055	2941.56104	8.844	4.178	13.568	13.438	V
(73480) 2002 PN34	2941.56536	21.104	0.036	2941.56810	9.800	4.178	13.568	13.438	B
(73480) 2002 PN34	2941.57245	19.219	0.052	2941.57519	7.915	4.178	13.568	13.438	I
(73480) 2002 PN34	2943.55308	20.152	0.082	2943.55562	8.842	4.187	13.569	13.473	V
(73480) 2002 PN34	2943.55597	20.134	0.083	2943.55851	8.824	4.187	13.569	13.473	V
(73480) 2002 PN34	2943.56304	21.012	0.063	2943.56558	9.702	4.187	13.569	13.473	B
(73480) 2002 PN34	2943.57012	19.310	0.081	2943.57266	8.000	4.187	13.569	13.473	I
(73480) 2002 PN34	2944.55421	19.890	0.209	2944.55665	8.577	4.189	13.570	13.490	V
(73480) 2002 PN34	2944.55711	19.992	0.230	2944.55955	8.679	4.189	13.570	13.491	V
(73480) 2002 PN34	2944.56417	20.657	0.121	2944.56661	9.344	4.189	13.570	13.491	B
(73480) 2002 PN34	2944.57126	19.172	0.102	2944.57369	7.859	4.189	13.570	13.491	I
(73480) 2002 PN34	2946.55426	20.300	0.145	2946.55649	8.981	4.190	13.571	13.526	V
(73480) 2002 PN34	2946.55715	20.412	0.165	2946.55938	9.093	4.190	13.571	13.526	V
(73480) 2002 PN34	2946.56421	20.882	0.102	2946.56644	9.563	4.190	13.571	13.526	B
(73480) 2002 PN34	2946.57130	19.287	0.105	2946.57353	7.968	4.190	13.571	13.526	I
(73480) 2002 PN34	2947.54319	20.150	0.187	2947.54532	8.828	4.189	13.572	13.543	V
(73480) 2002 PN34	2947.54608	19.994	0.179	2947.54821	8.672	4.189	13.572	13.543	V
(73480) 2002 PN34	2947.56023	18.994	0.124	2947.56236	7.672	4.189	13.572	13.543	I
(73480) 2002 PN34	2949.54138	20.252	0.102	2949.54331	8.924	4.183	13.573	13.578	V
(73480) 2002 PN34	2949.54427	20.137	0.094	2949.54620	8.809	4.183	13.573	13.578	V
(73480) 2002 PN34	2949.55134	20.917	0.082	2949.55327	9.589	4.183	13.573	13.578	B
(73480) 2002 PN34	2949.55842	19.154	0.072	2949.56035	7.826	4.183	13.573	13.578	I
(73480) 2002 PN34	2950.53524	20.135	0.086	2950.53707	8.805	4.179	13.574	13.595	V
(73480) 2002 PN34	2950.53813	20.368	0.106	2950.53996	9.038	4.179	13.574	13.595	V
(73480) 2002 PN34	2950.54519	21.197	0.099	2950.54702	9.867	4.179	13.574	13.595	B
(73480) 2002 PN34	2950.55227	19.435	0.077	2950.55410	8.105	4.179	13.574	13.596	I
(73480) 2002 PN34	2951.53773	20.295	0.131	2951.53946	8.962	4.173	13.574	13.613	V
(73480) 2002 PN34	2951.54063	20.254	0.129	2951.54236	8.921	4.173	13.574	13.613	V
(73480) 2002 PN34	2951.54777	21.158	0.133	2951.54950	9.825	4.173	13.574	13.613	B
(73480) 2002 PN34	2951.55508	19.344	0.092	2951.55681	8.011	4.173	13.574	13.613	I
(73480) 2002 PN34	2953.53636	20.182	0.092	2953.53789	8.843	4.158	13.576	13.648	V
(73480) 2002 PN34	2953.53925	20.068	0.084	2953.54078	8.729	4.158	13.576	13.648	V
(73480) 2002 PN34	2953.55339	19.231	0.084	2953.55492	7.892	4.157	13.576	13.648	I
(73480) 2002 PN34	2955.53619	20.289	0.089	2955.53752	8.944	4.138	13.577	13.683	V
(73480) 2002 PN34	2955.53909	20.470	0.125	2955.54042	9.125	4.138	13.577	13.683	V
(73480) 2002 PN34	2955.54615	21.164	0.062	2955.54748	9.819	4.137	13.577	13.683	B
(73480) 2002 PN34	2955.55324	19.283	0.106	2955.55457	7.938	4.137	13.577	13.683	I
(73480) 2002 PN34	2957.52918	20.224	0.050	2957.53031	8.873	4.113	13.578	13.717	V
(73480) 2002 PN34	2957.53207	20.140	0.045	2957.53320	8.789	4.113	13.578	13.717	V
(73480) 2002 PN34	2957.53912	21.058	0.031	2957.54025	9.707	4.113	13.578	13.717	B
(73480) 2002 PN34	2957.54619	19.161	0.058	2957.54732	7.810	4.113	13.578	13.717	I
				#					
(29981) 1999TD10	2866.83916	19.802	0.167	2866.83916	8.438	4.139	13.801	13.578	I
(29981) 1999TD10	2874.82041	20.863	0.115	2874.82105	9.514	3.989	13.818	13.467	V
(29981) 1999TD10	2874.82307	20.802	0.120	2874.82371	9.453	3.989	13.818	13.467	V
(29981) 1999TD10	2874.82899	21.524	0.064	2874.82963	10.176	3.989	13.818	13.467	B
(29981) 1999TD10	2874.83491	19.896	0.131	2874.83555	8.548	3.989	13.818	13.467	I
(29981) 1999TD10	2875.85338	21.502	0.051	2875.85410	10.155	3.964	13.820	13.453	B
(29981) 1999TD10	2875.85930	19.721	0.098	2875.86002	8.374	3.964	13.820	13.453	I

(29981) 1999TD10	2877.78970	21.186	0.049	2877.79057	9.843	3.914	13.824	13.427	B
(29981) 1999TD10	2877.79562	19.512	0.067	2877.79649	8.169	3.914	13.824	13.427	I
(29981) 1999TD10	2883.77943	20.902	0.078	2883.78076	9.570	3.733	13.836	13.349	V
(29981) 1999TD10	2883.78210	20.804	0.071	2883.78343	9.472	3.733	13.836	13.349	V
(29981) 1999TD10	2883.78827	21.716	0.050	2883.78960	10.384	3.733	13.836	13.349	B
(29981) 1999TD10	2883.79431	19.855	0.075	2883.79564	8.523	3.733	13.836	13.349	I
(29981) 1999TD10	2885.78177	20.997	0.143	2885.78324	9.668	3.663	13.840	13.324	V
(29981) 1999TD10	2885.78444	20.900	0.133	2885.78591	9.571	3.663	13.840	13.324	V
(29981) 1999TD10	2885.79035	21.633	0.072	2885.79182	10.304	3.663	13.840	13.324	B
(29981) 1999TD10	2885.79628	19.670	0.110	2885.79775	8.341	3.663	13.840	13.324	I
(29981) 1999TD10	2891.77774	20.764	0.268	2891.77962	9.445	3.429	13.852	13.253	V
(29981) 1999TD10	2891.78040	20.890	0.285	2891.78228	9.571	3.429	13.852	13.253	V
(29981) 1999TD10	2891.78632	21.209	0.287	2891.78820	9.890	3.429	13.852	13.252	B
(29981) 1999TD10	2891.79225	19.734	0.150	2891.79413	8.415	3.428	13.852	13.252	I
(29981) 1999TD10	2893.78846	19.611	0.161	2893.79047	8.295	3.342	13.856	13.230	I
(29981) 1999TD10	2895.73819	20.308	0.187	2895.74033	8.995	3.253	13.860	13.209	V
(29981) 1999TD10	2895.74085	20.491	0.193	2895.74299	9.178	3.253	13.860	13.209	V
(29981) 1999TD10	2895.74675	20.877	0.137	2895.74889	9.564	3.253	13.860	13.208	B
(29981) 1999TD10	2895.75268	19.312	0.126	2895.75482	7.999	3.253	13.860	13.208	I
(29981) 1999TD10	2908.72360	20.385	0.077	2908.72645	9.088	2.571	13.887	13.086	V
(29981) 1999TD10	2908.72627	20.331	0.083	2908.72912	9.034	2.571	13.887	13.086	V
(29981) 1999TD10	2908.73218	21.159	0.198	2908.73503	9.862	2.571	13.887	13.086	B
(29981) 1999TD10	2908.73811	19.497	0.077	2908.74096	8.200	2.570	13.887	13.086	I
(29981) 1999TD10	2910.79692	20.631	0.118	2910.79986	9.336	2.449	13.891	13.070	V
(29981) 1999TD10	2910.80283	20.982	0.219	2910.80577	9.687	2.448	13.891	13.070	B
(29981) 1999TD10	2910.80875	18.997	0.174	2910.81169	7.702	2.448	13.891	13.070	I
(29981) 1999TD10	2922.65735	19.680	0.220	2922.66070	8.393	1.689	13.915	12.998	V
(29981) 1999TD10	2922.66002	19.544	0.186	2922.66337	8.257	1.689	13.915	12.998	V
(29981) 1999TD10	2930.70408	20.190	0.048	2930.70759	8.905	1.134	13.932	12.971	V
(29981) 1999TD10	2930.70674	20.149	0.050	2930.71025	8.864	1.134	13.932	12.971	V
(29981) 1999TD10	2930.71266	21.017	0.031	2930.71617	9.732	1.133	13.932	12.971	B
(29981) 1999TD10	2930.71859	19.062	0.049	2930.72210	7.777	1.133	13.932	12.971	I
(29981) 1999TD10	2935.68781	20.276	0.055	2935.69136	8.991	0.785	13.942	12.964	V
(29981) 1999TD10	2935.69639	21.298	0.044	2935.69994	10.013	0.785	13.942	12.964	B
(29981) 1999TD10	2935.70232	19.322	0.057	2935.70587	8.037	0.784	13.942	12.964	I
(29981) 1999TD10	2937.64880	20.470	0.082	2937.65235	9.184	0.650	13.947	12.964	V
(29981) 1999TD10	2937.65147	20.336	0.067	2937.65502	9.050	0.650	13.947	12.964	V
(29981) 1999TD10	2937.65738	21.345	0.050	2937.66093	10.059	0.650	13.947	12.964	B
(29981) 1999TD10	2937.66331	19.526	0.086	2937.66686	8.240	0.650	13.947	12.964	I
(29981) 1999TD10	2942.68266	18.991	0.050	2942.68619	7.703	0.342	13.957	12.967	I
(29981) 1999TD10	2944.70834	19.389	0.079	2944.71185	8.100	0.270	13.961	12.971	I
(29981) 1999TD10	2945.66355	20.665	0.144	2945.66705	9.375	0.260	13.963	12.973	V
(29981) 1999TD10	2945.66621	20.219	0.096	2945.66971	8.929	0.260	13.963	12.973	V
(29981) 1999TD10	2945.67213	21.275	0.094	2945.67563	9.985	0.260	13.963	12.973	B
(29981) 1999TD10	2945.67805	19.408	0.086	2945.68155	8.118	0.260	13.963	12.973	I
(29981) 1999TD10	2946.67610	20.202	0.078	2946.67958	8.911	0.271	13.965	12.975	V
(29981) 1999TD10	2946.67876	20.313	0.082	2946.68224	9.022	0.271	13.965	12.975	V
(29981) 1999TD10	2946.68467	21.196	0.070	2946.68815	9.905	0.271	13.965	12.975	B
(29981) 1999TD10	2956.66188	20.097	0.082	2956.66512	8.796	0.852	13.986	13.018	V
(29981) 1999TD10	2956.66454	20.182	0.104	2956.66778	8.881	0.852	13.986	13.018	V

(29981) 1999TD10	2956.67046	20.991	0.075	2956.67370	9.690	0.853	13.986	13.018	B
(29981) 1999TD10	2956.67638	19.099	0.066	2956.67962	7.798	0.853	13.986	13.018	I
(29981) 1999TD10	2972.59304	20.726	0.082	2972.59553	9.398	1.930	14.020	13.147	V
(29981) 1999TD10	2972.59570	20.672	0.089	2972.59819	9.344	1.930	14.020	13.147	V
(29981) 1999TD10	2972.60161	21.521	0.060	2972.60410	10.193	1.930	14.020	13.147	B
(29981) 1999TD10	2972.60752	19.778	0.086	2972.61001	8.450	1.931	14.020	13.147	I
(29981) 1999TD10	2974.66089	20.102	0.111	2974.66326	8.770	2.060	14.024	13.169	V
(29981) 1999TD10	2974.66355	20.290	0.068	2974.66592	8.958	2.061	14.024	13.169	V
(29981) 1999TD10	2974.66946	21.209	0.074	2974.67183	9.877	2.061	14.024	13.169	B
(29981) 1999TD10	2974.67537	19.390	0.066	2974.67773	8.058	2.061	14.024	13.169	I
(29981) 1999TD10	2976.55816	20.331	0.090	2976.56040	8.995	2.178	14.028	13.190	V
(29981) 1999TD10	2976.56083	20.321	0.083	2976.56307	8.985	2.178	14.028	13.190	V
(29981) 1999TD10	2976.56673	21.000	0.070	2976.56897	9.664	2.178	14.028	13.190	B
(29981) 1999TD10	2976.57265	19.336	0.067	2976.57489	8.000	2.178	14.028	13.190	I
				#					
(8405) Asbolus	2845.84195	18.145	0.048	2845.84195	9.941	3.820	7.086	6.171	B
(8405) Asbolus	2845.84304	16.524	0.035	2845.84304	8.320	3.820	7.086	6.171	I
(8405) Asbolus	2845.84411	17.513	0.036	2845.84411	9.309	3.820	7.086	6.171	V
(8405) Asbolus	2847.84039	18.054	0.104	2847.84044	9.852	3.596	7.089	6.162	B
(8405) Asbolus	2847.84141	16.419	0.094	2847.84146	8.217	3.596	7.089	6.162	I
(8405) Asbolus	2847.84244	17.341	0.159	2847.84249	9.139	3.596	7.089	6.162	V
(8405) Asbolus	2851.85783	18.005	0.036	2851.85797	9.807	3.155	7.095	6.147	B
(8405) Asbolus	2851.85885	16.368	0.029	2851.85899	8.170	3.155	7.095	6.147	I
(8405) Asbolus	2851.85988	17.391	0.029	2851.86002	9.193	3.155	7.095	6.147	V
(8405) Asbolus	2855.80134	17.856	0.061	2855.80154	9.660	2.749	7.100	6.136	B
(8405) Asbolus	2855.80235	16.358	0.050	2855.80255	8.162	2.749	7.100	6.136	I
(8405) Asbolus	2855.80339	17.429	0.100	2855.80359	9.233	2.749	7.100	6.136	V
(8405) Asbolus	2856.78916	18.114	0.046	2856.78937	9.919	2.654	7.101	6.134	B
(8405) Asbolus	2856.79034	16.551	0.034	2856.79055	8.356	2.654	7.101	6.134	I
(8405) Asbolus	2856.79139	17.386	0.038	2856.79160	9.191	2.654	7.101	6.134	V
(8405) Asbolus	2857.82597	18.249	0.029	2857.82620	10.054	2.559	7.103	6.132	B
(8405) Asbolus	2857.82712	17.528	0.023	2857.82735	9.333	2.559	7.103	6.132	V
(8405) Asbolus	2857.82827	16.578	0.021	2857.82850	8.383	2.558	7.103	6.132	I
(8405) Asbolus	2859.82861	18.154	0.038	2859.82885	9.959	2.388	7.106	6.129	B
(8405) Asbolus	2859.82971	16.420	0.024	2859.82995	8.225	2.387	7.106	6.129	I
(8405) Asbolus	2859.83113	17.336	0.025	2859.83137	9.141	2.387	7.106	6.129	V
(8405) Asbolus	2862.80823	18.082	0.053	2862.80848	9.886	2.176	7.110	6.128	B
(8405) Asbolus	2862.80925	16.499	0.036	2862.80950	8.303	2.176	7.110	6.128	I
(8405) Asbolus	2862.81029	17.354	0.037	2862.81054	9.158	2.176	7.110	6.128	V
(8405) Asbolus	2863.78406	18.108	0.091	2863.78431	9.912	2.120	7.111	6.128	B
(8405) Asbolus	2863.78511	16.490	0.132	2863.78536	8.294	2.120	7.111	6.128	I
(8405) Asbolus	2863.78619	17.466	0.147	2863.78644	9.270	2.120	7.111	6.128	V
(8405) Asbolus	2865.83373	16.294	0.036	2865.83398	8.097	2.030	7.114	6.128	I
(8405) Asbolus	2866.77860	18.215	0.114	2866.77884	10.017	2.002	7.115	6.129	B
(8405) Asbolus	2866.77963	16.540	0.037	2866.77987	8.342	2.002	7.115	6.129	I
(8405) Asbolus	2866.78069	17.522	0.042	2866.78093	9.324	2.002	7.115	6.129	V
(8405) Asbolus	2868.71287	17.924	0.062	2868.71310	9.724	1.972	7.118	6.131	B
(8405) Asbolus	2868.71389	16.388	0.031	2868.71412	8.188	1.972	7.118	6.131	I
(8405) Asbolus	2868.71498	17.311	0.038	2868.71521	9.111	1.972	7.118	6.131	V
(8405) Asbolus	2869.74013	18.147	0.052	2869.74035	9.946	1.973	7.120	6.133	B

(8405) Asbolus	2869.74121	16.479	0.024	2869.74143	8.278	1.973	7.120	6.133	I
(8405) Asbolus	2869.74236	17.417	0.026	2869.74258	9.216	1.973	7.120	6.133	V
(8405) Asbolus	2870.75163	17.711	0.070	2870.75184	9.509	1.984	7.121	6.135	B
(8405) Asbolus	2870.75272	16.437	0.020	2870.75293	8.235	1.984	7.121	6.135	I
(8405) Asbolus	2870.75384	17.194	0.043	2870.75405	8.992	1.984	7.121	6.135	V
(8405) Asbolus	2872.70165	18.114	0.136	2872.70183	9.910	2.034	7.124	6.140	B
(8405) Asbolus	2872.70269	17.373	0.075	2872.70287	9.169	2.034	7.124	6.140	V
(8405) Asbolus	2872.70378	16.284	0.124	2872.70396	8.080	2.034	7.124	6.140	I
(8405) Asbolus	2873.79545	18.044	0.074	2873.79561	9.838	2.079	7.125	6.143	B
(8405) Asbolus	2873.79650	16.387	0.039	2873.79666	8.181	2.079	7.125	6.143	I
(8405) Asbolus	2873.79757	17.377	0.037	2873.79773	9.171	2.079	7.125	6.143	V
(8405) Asbolus	2874.77554	17.488	0.097	2874.77569	9.281	2.128	7.127	6.146	B
(8405) Asbolus	2874.77658	16.242	0.091	2874.77673	8.035	2.128	7.127	6.146	I
(8405) Asbolus	2874.77765	17.259	0.080	2874.77780	9.052	2.128	7.127	6.146	V
(8405) Asbolus	2875.66604	18.156	0.028	2875.66617	9.947	2.178	7.128	6.149	B
(8405) Asbolus	2875.66709	16.435	0.030	2875.66722	8.226	2.178	7.128	6.149	I
(8405) Asbolus	2875.66816	17.415	0.022	2875.66829	9.206	2.179	7.128	6.149	V
(8405) Asbolus	2876.73865	18.244	0.030	2876.73876	10.033	2.248	7.130	6.153	B
(8405) Asbolus	2876.73970	16.490	0.020	2876.73981	8.279	2.248	7.130	6.153	I
(8405) Asbolus	2876.74077	17.447	0.023	2876.74088	9.236	2.248	7.130	6.153	V
(8405) Asbolus	2878.64483	18.016	0.084	2878.64489	9.802	2.389	7.132	6.160	B
(8405) Asbolus	2878.64588	16.396	0.118	2878.64594	8.182	2.389	7.132	6.160	I
(8405) Asbolus	2886.73687	18.050	0.059	2886.73667	9.817	3.159	7.144	6.205	B
(8405) Asbolus	2886.73803	17.499	0.028	2886.73783	9.266	3.159	7.144	6.205	V
(8405) Asbolus	2886.73909	16.505	0.040	2886.73889	8.272	3.160	7.144	6.205	I
(8405) Asbolus	2892.74612	18.243	0.083	2892.74567	9.991	3.808	7.153	6.250	B
(8405) Asbolus	2892.74718	16.604	0.048	2892.74673	8.352	3.808	7.153	6.250	I
(8405) Asbolus	2892.74826	17.648	0.069	2892.74781	9.396	3.808	7.153	6.250	V
(8405) Asbolus	2893.69578	17.543	0.137	2893.69528	9.288	3.912	7.154	6.258	V
(8405) Asbolus	2894.69900	18.259	0.048	2894.69845	10.001	4.022	7.156	6.266	B
(8405) Asbolus	2894.70015	16.580	0.026	2894.69960	8.322	4.022	7.156	6.266	I
(8405) Asbolus	2894.70136	17.560	0.040	2894.70081	9.302	4.022	7.156	6.266	V
(8405) Asbolus	2895.66891	18.308	0.038	2895.66831	10.046	4.127	7.157	6.275	B
(8405) Asbolus	2895.67031	16.674	0.021	2895.66971	8.412	4.128	7.157	6.275	I
(8405) Asbolus	2895.67143	17.590	0.027	2895.67083	9.328	4.128	7.157	6.275	V
(8405) Asbolus	2896.71966	18.288	0.069	2896.71900	10.022	4.241	7.159	6.285	B
(8405) Asbolus	2896.72079	16.681	0.024	2896.72013	8.415	4.242	7.159	6.285	I
(8405) Asbolus	2896.72217	17.650	0.031	2896.72151	9.384	4.242	7.159	6.285	V
(8405) Asbolus	2902.71224	18.417	0.138	2902.71124	10.128	4.878	7.168	6.344	B
(8405) Asbolus	2902.71329	16.621	0.161	2902.71229	8.332	4.878	7.168	6.344	I
(8405) Asbolus	2902.71436	17.817	0.115	2902.71336	9.528	4.878	7.168	6.344	V
(8405) Asbolus	2903.71542	18.303	0.059	2903.71436	10.010	4.981	7.170	6.355	B
(8405) Asbolus	2903.71647	16.658	0.039	2903.71541	8.365	4.981	7.170	6.355	I
(8405) Asbolus	2903.71754	17.649	0.047	2903.71648	9.356	4.981	7.170	6.355	V
(8405) Asbolus	2907.66673	18.406	0.030	2907.66541	10.096	5.375	7.176	6.400	B
(8405) Asbolus	2907.66779	16.790	0.048	2907.66647	8.480	5.375	7.176	6.400	I
(8405) Asbolus	2907.66886	17.656	0.023	2907.66754	9.346	5.375	7.176	6.400	V
(8405) Asbolus	2908.65481	18.561	0.034	2908.65342	10.246	5.470	7.177	6.412	B
(8405) Asbolus	2908.65598	16.735	0.024	2908.65459	8.420	5.471	7.177	6.412	I
(8405) Asbolus	2908.65708	17.725	0.028	2908.65569	9.410	5.471	7.177	6.412	V

(8405) Asbolus	2911.67151	18.523	0.039	2911.66990	10.194	5.752	7.182	6.450	B
(8405) Asbolus	2911.67328	17.758	0.029	2911.67167	9.429	5.752	7.182	6.450	V
(8405) Asbolus	2911.67479	16.742	0.028	2911.67318	8.413	5.752	7.182	6.450	I
(8405) Asbolus	2912.66831	18.063	0.114	2912.66663	9.729	5.842	7.183	6.462	B
(8405) Asbolus	2912.66945	16.597	0.076	2912.66777	8.263	5.842	7.183	6.462	I
(8405) Asbolus	2915.65684	18.293	0.059	2915.65493	9.945	6.101	7.188	6.502	B
(8405) Asbolus	2915.65789	16.786	0.039	2915.65598	8.438	6.101	7.188	6.502	I
(8405) Asbolus	2915.65896	17.733	0.040	2915.65705	9.385	6.101	7.188	6.502	V
(8405) Asbolus	2916.66544	17.751	0.162	2916.66345	9.398	6.184	7.190	6.515	B
(8405) Asbolus	2916.66649	16.733	0.113	2916.66450	8.380	6.184	7.190	6.516	I
(8405) Asbolus	2916.66757	17.787	0.070	2916.66558	9.434	6.185	7.190	6.516	V
(8405) Asbolus	2924.62702	17.809	0.137	2924.62437	9.414	6.778	7.202	6.630	B
(8405) Asbolus	2924.62813	16.811	0.057	2924.62548	8.416	6.778	7.202	6.630	I
(8405) Asbolus	2924.62946	17.720	0.218	2924.62681	9.325	6.779	7.202	6.630	V
(8405) Asbolus	2928.59508	18.811	0.056	2928.59208	10.394	7.028	7.209	6.691	B
(8405) Asbolus	2928.59620	16.953	0.034	2928.59320	8.536	7.028	7.209	6.691	I
(8405) Asbolus	2928.59731	17.905	0.066	2928.59431	9.488	7.028	7.209	6.691	V
(8405) Asbolus	2942.58633	18.761	0.056	2942.58200	10.264	7.641	7.231	6.920	B
(8405) Asbolus	2942.58749	17.024	0.036	2942.58316	8.527	7.641	7.231	6.920	I
(8405) Asbolus	2942.58902	17.959	0.033	2942.58469	9.462	7.641	7.231	6.920	V
(8405) Asbolus	2943.62128	18.670	0.047	2943.61685	10.167	7.670	7.233	6.938	B
(8405) Asbolus	2943.62234	17.039	0.032	2943.61791	8.536	7.670	7.233	6.938	I
(8405) Asbolus	2943.62341	18.014	0.036	2943.61898	9.511	7.670	7.233	6.938	V
(8405) Asbolus	2944.59835	18.755	0.080	2944.59382	10.246	7.695	7.235	6.955	B
(8405) Asbolus	2944.59940	17.106	0.056	2944.59487	8.597	7.695	7.235	6.955	I
(8405) Asbolus	2944.60047	18.043	0.055	2944.59594	9.534	7.695	7.235	6.955	V
(8405) Asbolus	2950.57824	18.848	0.070	2950.57311	10.304	7.803	7.245	7.059	B
(8405) Asbolus	2950.57929	17.235	0.034	2950.57416	8.691	7.803	7.245	7.059	I
(8405) Asbolus	2950.58040	17.768	0.040	2950.57527	9.224	7.803	7.245	7.059	V
(8405) Asbolus	2951.56644	18.636	0.079	2951.56121	10.086	7.813	7.246	7.076	B
(8405) Asbolus	2951.56774	17.100	0.036	2951.56251	8.550	7.813	7.246	7.076	I
(8405) Asbolus	2951.56892	17.943	0.048	2951.56369	9.393	7.814	7.246	7.076	V
				#					
(32532) Thereus	2854.79593	19.468	0.037	2854.79593	9.868	5.002	9.440	8.810	V
(32532) Thereus	2854.79764	19.377	0.035	2854.79764	9.777	5.002	9.440	8.810	V
(32532) Thereus	2854.80240	20.217	0.017	2854.80240	10.617	5.002	9.440	8.810	B
(32532) Thereus	2854.80715	18.355	0.037	2854.80715	8.755	5.001	9.440	8.810	I
(32532) Thereus	2858.77855	19.274	0.128	2858.77882	9.685	4.743	9.444	8.764	V
(32532) Thereus	2858.78026	19.290	0.146	2858.78053	9.701	4.743	9.444	8.764	V
(32532) Thereus	2858.78497	20.175	0.023	2858.78524	10.586	4.742	9.444	8.764	B
(32532) Thereus	2858.78970	18.474	0.153	2858.78997	8.885	4.742	9.444	8.764	I
(32532) Thereus	2859.84761	19.268	0.126	2859.84795	9.681	4.669	9.445	8.752	V
(32532) Thereus	2859.85419	20.138	0.021	2859.85453	10.551	4.669	9.445	8.752	B
(32532) Thereus	2859.85896	18.435	0.147	2859.85930	8.848	4.669	9.445	8.752	I
(32532) Thereus	2860.87447	19.450	0.054	2860.87487	9.866	4.597	9.446	8.741	V
(32532) Thereus	2860.87618	19.355	0.046	2860.87658	9.771	4.597	9.446	8.741	V
(32532) Thereus	2860.88089	20.169	0.028	2860.88129	10.585	4.597	9.446	8.741	B
(32532) Thereus	2860.88563	18.410	0.042	2860.88603	8.826	4.597	9.446	8.741	I
(32532) Thereus	2862.82759	19.269	0.065	2862.82811	9.690	4.456	9.448	8.720	V
(32532) Thereus	2862.82929	19.142	0.058	2862.82981	9.563	4.456	9.448	8.720	V

(32532) Thereus	2862.83400	19.974	0.047	2862.83452	10.395	4.456	9.448	8.720	B
(32532) Thereus	2862.83874	18.327	0.042	2862.83926	8.748	4.456	9.448	8.720	I
(32532) Thereus	2863.80234	19.424	0.099	2863.80292	9.847	4.384	9.449	8.710	V
(32532) Thereus	2863.80893	20.201	0.076	2863.80951	10.624	4.384	9.449	8.710	B
(32532) Thereus	2863.81370	18.535	0.062	2863.81428	8.958	4.383	9.449	8.710	I
(32532) Thereus	2865.83633	18.907	0.095	2865.83703	9.335	4.230	9.451	8.689	V
(32532) Thereus	2865.83807	18.969	0.128	2865.83877	9.397	4.230	9.451	8.689	V
(32532) Thereus	2865.84281	20.025	0.123	2865.84351	10.453	4.229	9.451	8.689	B
(32532) Thereus	2865.84759	18.424	0.166	2865.84829	8.852	4.229	9.451	8.689	I
(32532) Thereus	2866.80255	19.659	0.103	2866.80330	10.089	4.155	9.452	8.680	B
(32532) Thereus	2866.80732	18.219	0.088	2866.80807	8.649	4.154	9.452	8.680	I
(32532) Thereus	2874.79465	19.177	0.055	2874.79580	9.623	3.492	9.460	8.610	V
(32532) Thereus	2874.80123	19.727	0.155	2874.80238	10.173	3.492	9.460	8.610	B
(32532) Thereus	2874.80600	18.186	0.123	2874.80715	8.632	3.491	9.460	8.610	I
(32532) Thereus	2875.77644	19.315	0.034	2875.77764	9.762	3.406	9.461	8.603	V
(32532) Thereus	2875.77818	19.301	0.034	2875.77938	9.748	3.406	9.461	8.603	V
(32532) Thereus	2875.78292	20.193	0.018	2875.78412	10.640	3.406	9.461	8.603	B
(32532) Thereus	2877.71629	19.348	0.036	2877.71757	9.798	3.235	9.463	8.589	V
(32532) Thereus	2877.71800	19.320	0.100	2877.71928	9.770	3.234	9.463	8.589	V
(32532) Thereus	2877.72271	20.166	0.018	2877.72399	10.616	3.234	9.463	8.589	B
(32532) Thereus	2877.72747	18.379	0.038	2877.72875	8.829	3.234	9.463	8.589	I
(32532) Thereus	2879.74448	19.321	0.031	2879.74584	9.774	3.052	9.465	8.575	V
(32532) Thereus	2879.74622	19.302	0.031	2879.74758	9.755	3.052	9.465	8.575	V
(32532) Thereus	2879.75096	20.270	0.016	2879.75232	10.723	3.051	9.465	8.575	B
(32532) Thereus	2879.75574	18.494	0.034	2879.75710	8.947	3.051	9.465	8.575	I
(32532) Thereus	2885.69135	19.248	0.046	2885.69290	9.709	2.505	9.470	8.541	V
(32532) Thereus	2885.69309	19.332	0.049	2885.69464	9.793	2.505	9.470	8.541	V
(32532) Thereus	2885.69784	20.234	0.027	2885.69939	10.695	2.504	9.470	8.541	B
(32532) Thereus	2888.72021	18.906	0.039	2888.72184	9.369	2.225	9.473	8.527	V
(32532) Thereus	2888.72195	18.975	0.044	2888.72358	9.438	2.225	9.473	8.527	V
(32532) Thereus	2888.72670	19.863	0.030	2888.72833	10.326	2.224	9.473	8.527	B
(32532) Thereus	2888.73148	18.026	0.031	2888.73311	8.489	2.224	9.473	8.527	I
(32532) Thereus	2891.72697	19.037	0.081	2891.72867	9.503	1.951	9.476	8.516	V
(32532) Thereus	2891.72871	18.901	0.075	2891.73041	9.367	1.951	9.476	8.516	V
(32532) Thereus	2891.73346	20.085	0.080	2891.73516	10.551	1.950	9.476	8.516	B
(32532) Thereus	2891.73823	18.207	0.054	2891.73993	8.673	1.950	9.476	8.516	I
(32532) Thereus	2895.71642	19.073	0.069	2895.71818	9.540	1.605	9.480	8.506	V
(32532) Thereus	2895.71815	19.047	0.069	2895.71991	9.514	1.604	9.480	8.506	V
(32532) Thereus	2895.72289	19.897	0.053	2895.72465	10.364	1.604	9.480	8.506	B
(32532) Thereus	2895.72766	18.188	0.057	2895.72942	8.655	1.604	9.480	8.506	I
(32532) Thereus	2897.72748	19.039	0.065	2897.72926	9.507	1.445	9.482	8.502	V
(32532) Thereus	2897.72922	18.975	0.054	2897.73100	9.443	1.444	9.482	8.502	V
(32532) Thereus	2897.73396	19.832	0.046	2897.73574	10.300	1.444	9.482	8.502	B
(32532) Thereus	2897.73874	18.045	0.040	2897.74052	8.513	1.444	9.482	8.502	I
(32532) Thereus	2906.71708	19.045	0.034	2906.71887	9.511	1.031	9.491	8.501	V
(32532) Thereus	2906.71882	19.032	0.035	2906.72061	9.498	1.031	9.491	8.501	V
(32532) Thereus	2906.72357	19.899	0.014	2906.72536	10.365	1.031	9.491	8.501	B
(32532) Thereus	2906.72834	18.139	0.035	2906.73012	8.605	1.031	9.491	8.501	I
(32532) Thereus	2908.65897	18.971	0.028	2908.66074	9.436	1.048	9.493	8.504	V
(32532) Thereus	2908.66071	18.996	0.031	2908.66248	9.461	1.048	9.493	8.504	V

(32532) Thereus	2908.66545	19.537	0.014	2908.66722	10.002	1.048	9.493	8.504	B
(32532) Thereus	2908.67023	17.998	0.027	2908.67200	8.463	1.048	9.493	8.504	I
(32532) Thereus	2930.61433	19.018	0.030	2930.61545	9.450	2.710	9.514	8.615	V
(32532) Thereus	2930.61606	19.151	0.033	2930.61718	9.583	2.710	9.514	8.615	V
(32532) Thereus	2930.62080	19.939	0.017	2930.62192	10.371	2.710	9.514	8.615	B
(32532) Thereus	2930.62557	18.172	0.037	2930.62669	8.604	2.711	9.514	8.615	I
(32532) Thereus	2935.60485	19.172	0.029	2935.60572	9.591	3.156	9.519	8.660	V
(32532) Thereus	2935.60658	19.151	0.030	2935.60745	9.570	3.157	9.519	8.660	V
(32532) Thereus	2935.61133	19.991	0.014	2935.61220	10.410	3.157	9.519	8.660	B
(32532) Thereus	2935.61610	18.155	0.031	2935.61697	8.574	3.157	9.519	8.660	I
(32532) Thereus	2937.58351	19.190	0.034	2937.58426	9.604	3.329	9.521	8.679	V
(32532) Thereus	2937.58524	19.155	0.036	2937.58599	9.569	3.329	9.521	8.679	V
(32532) Thereus	2937.58999	20.039	0.017	2937.59074	10.453	3.329	9.521	8.679	B
(32532) Thereus	2937.59476	18.414	0.038	2937.59551	8.828	3.330	9.521	8.679	I
(32532) Thereus	2942.63799	19.345	0.044	2942.63843	9.744	3.752	9.526	8.733	V
(32532) Thereus	2942.63973	19.336	0.041	2942.64017	9.735	3.752	9.526	8.733	V
(32532) Thereus	2942.64448	20.192	0.022	2942.64492	10.591	3.752	9.526	8.734	B
(32532) Thereus	2942.64926	18.404	0.042	2942.64970	8.803	3.753	9.526	8.734	I
(32532) Thereus	2944.61658	19.013	0.142	2944.61689	9.406	3.910	9.528	8.756	V
(32532) Thereus	2944.61831	19.182	0.112	2944.61862	9.575	3.910	9.528	8.756	V
(32532) Thereus	2944.62307	20.039	0.045	2944.62338	10.432	3.910	9.528	8.756	B
(32532) Thereus	2944.62784	18.200	0.060	2944.62815	8.593	3.910	9.528	8.757	I
(32532) Thereus	2945.56619	19.176	0.059	2945.56643	9.566	3.984	9.529	8.768	V
(32532) Thereus	2945.56792	19.305	0.065	2945.56816	9.695	3.984	9.529	8.768	V
(32532) Thereus	2945.57267	19.989	0.041	2945.57291	10.379	3.984	9.529	8.768	B
(32532) Thereus	2945.57745	18.510	0.067	2945.57769	8.900	3.985	9.529	8.768	I
(32532) Thereus	2946.60597	19.170	0.076	2946.60614	9.557	4.064	9.530	8.780	V
(32532) Thereus	2946.60770	19.052	0.066	2946.60787	9.439	4.064	9.530	8.780	V
(32532) Thereus	2946.61245	20.109	0.068	2946.61262	10.496	4.064	9.530	8.780	B
(32532) Thereus	2946.61722	18.304	0.056	2946.61739	8.691	4.064	9.530	8.780	I
(32532) Thereus	2950.59680	19.260	0.076	2950.59668	9.634	4.357	9.534	8.831	V
(32532) Thereus	2950.59853	19.274	0.075	2950.59841	9.648	4.357	9.534	8.831	V
(32532) Thereus	2950.60328	19.983	0.148	2950.60316	10.356	4.357	9.534	8.831	B
(32532) Thereus	2950.60805	18.112	0.064	2950.60793	8.485	4.357	9.534	8.831	I
(32532) Thereus	2952.57454	19.438	0.039	2952.57427	9.805	4.494	9.536	8.857	V
(32532) Thereus	2952.57628	19.464	0.046	2952.57601	9.831	4.494	9.536	8.857	V
(32532) Thereus	2952.58103	20.193	0.027	2952.58075	10.560	4.494	9.536	8.858	B
(32532) Thereus	2952.58581	18.468	0.052	2952.58553	8.835	4.495	9.536	8.858	I
(32532) Thereus	2958.54420	19.263	0.062	2958.54344	9.608	4.873	9.542	8.942	V
(32532) Thereus	2958.54593	19.315	0.074	2958.54517	9.660	4.873	9.542	8.942	V
(32532) Thereus	2958.55068	20.026	0.038	2958.54992	10.371	4.873	9.542	8.942	B
(32532) Thereus	2958.55545	18.177	0.069	2958.55469	8.522	4.873	9.542	8.942	I
(32532) Thereus	2972.53913	19.687	0.049	2972.53710	9.976	5.535	9.556	9.162	V
(32532) Thereus	2972.54087	19.625	0.046	2972.53884	9.914	5.535	9.556	9.162	V
(32532) Thereus	2972.54561	20.400	0.034	2972.54358	10.689	5.535	9.556	9.162	B
(32532) Thereus	2972.55037	18.598	0.044	2972.54834	8.887	5.536	9.556	9.162	I
(32532) Thereus	2974.58960	19.598	0.095	2974.58737	9.878	5.604	9.558	9.196	V
(32532) Thereus	2974.59134	19.485	0.070	2974.58911	9.765	5.604	9.558	9.196	V
(32532) Thereus	2974.59608	20.217	0.051	2974.59385	10.497	5.604	9.558	9.196	B
(32532) Thereus	2974.60085	18.673	0.063	2974.59862	8.953	5.604	9.558	9.196	I

(32532) Thereus	3638.67727	20.119	0.038	3638.67431	10.217	2.220	10.252	9.323	B
(32532) Thereus	3638.68132	20.246	0.039	3638.67836	10.344	2.220	10.252	9.323	B
(32532) Thereus	3638.68438	19.384	0.050	3638.68142	9.482	2.219	10.252	9.323	V
(32532) Thereus	3638.68643	18.466	0.052	3638.68347	8.564	2.219	10.252	9.323	I
(32532) Thereus	3640.69001	18.739	0.052	3640.68710	8.839	2.028	10.254	9.313	I
(32532) Thereus	3640.69001	19.608	0.043	3640.68710	9.708	2.028	10.254	9.313	V
(32532) Thereus	3640.69106	20.458	0.037	3640.68815	10.558	2.027	10.254	9.313	B
(32532) Thereus	3640.69106	20.532	0.039	3640.68815	10.632	2.027	10.254	9.313	B
(32532) Thereus	3652.62533	20.210	0.043	3652.62262	10.315	0.836	10.267	9.278	B
(32532) Thereus	3652.62938	20.226	0.042	3652.62667	10.331	0.835	10.267	9.278	B
(32532) Thereus	3652.63243	19.403	0.048	3652.62973	9.508	0.835	10.267	9.278	V
(32532) Thereus	3652.63446	18.503	0.041	3652.63175	8.608	0.835	10.267	9.278	I
(32532) Thereus	3654.71304	20.182	0.039	3654.71034	10.287	0.622	10.269	9.276	B
(32532) Thereus	3654.71709	20.177	0.038	3654.71439	10.282	0.621	10.269	9.276	B
(32532) Thereus	3654.72016	19.434	0.044	3654.71747	9.539	0.621	10.269	9.276	V
(32532) Thereus	3654.72219	18.472	0.042	3654.71949	8.577	0.621	10.269	9.276	I
(32532) Thereus	3658.61420	20.237	0.174	3658.61150	10.341	0.224	10.273	9.277	B
(32532) Thereus	3658.61825	19.997	0.142	3658.61555	10.101	0.224	10.273	9.277	B
(32532) Thereus	3658.62130	19.169	0.108	3658.61860	9.273	0.224	10.273	9.277	V
(32532) Thereus	3658.62333	18.186	0.085	3658.62063	8.290	0.223	10.273	9.277	I
(32532) Thereus	3664.63355	20.247	0.056	3664.63079	10.348	0.411	10.280	9.287	B
(32532) Thereus	3664.63761	20.226	0.058	3664.63485	10.327	0.411	10.280	9.287	B
(32532) Thereus	3664.64066	19.685	0.071	3664.63790	9.786	0.412	10.280	9.287	V
(32532) Thereus	3664.64269	18.729	0.058	3664.63993	8.830	0.412	10.280	9.287	I
(32532) Thereus	3669.65740	20.254	0.143	3669.65455	10.350	0.923	10.285	9.304	B
(32532) Thereus	3669.66453	19.569	0.075	3669.66168	9.665	0.924	10.285	9.304	V
(32532) Thereus	3669.66656	18.734	0.099	3669.66371	8.830	0.924	10.285	9.304	I
(32532) Thereus	3674.58265	20.287	0.031	3674.57966	10.376	1.419	10.290	9.328	B
(32532) Thereus	3674.58670	20.344	0.032	3674.58371	10.433	1.419	10.290	9.328	B
(32532) Thereus	3674.58974	19.542	0.042	3674.58675	9.631	1.419	10.290	9.328	V
(32532) Thereus	3674.59177	18.672	0.048	3674.58878	8.761	1.420	10.290	9.328	I
(32532) Thereus	3676.57100	20.122	0.027	3676.56794	10.208	1.615	10.293	9.340	B
(32532) Thereus	3676.57506	20.123	0.026	3676.57200	10.209	1.616	10.293	9.340	B
(32532) Thereus	3676.57812	19.450	0.038	3676.57506	9.536	1.616	10.293	9.340	V
(32532) Thereus	3676.58015	18.470	0.041	3676.57709	8.556	1.616	10.293	9.340	I
(32532) Thereus	3678.60821	20.235	0.030	3678.60507	10.317	1.814	10.295	9.353	B
(32532) Thereus	3678.61226	20.265	0.030	3678.60912	10.347	1.814	10.295	9.353	B
(32532) Thereus	3678.61533	19.423	0.040	3678.61219	9.505	1.815	10.295	9.353	V
(32532) Thereus	3678.61736	18.544	0.045	3678.61422	8.626	1.815	10.295	9.353	I
(32532) Thereus	3681.60638	20.254	0.047	3681.60311	10.330	2.101	10.298	9.375	B
(32532) Thereus	3681.61043	20.181	0.047	3681.60716	10.257	2.101	10.298	9.375	B
(32532) Thereus	3681.61349	19.342	0.059	3681.61022	9.418	2.101	10.298	9.375	V
(32532) Thereus	3681.61552	18.529	0.061	3681.61225	8.605	2.102	10.298	9.375	I
(32532) Thereus	3686.54247	20.640	0.168	3686.53896	10.706	2.557	10.303	9.417	B
(32532) Thereus	3686.54653	20.526	0.146	3686.54302	10.592	2.557	10.303	9.417	B
(32532) Thereus	3686.54958	19.743	0.149	3686.54607	9.809	2.557	10.303	9.417	V
(32532) Thereus	3690.62500	20.414	0.178	3690.62127	10.470	2.916	10.307	9.456	B
(32532) Thereus	3690.62906	20.140	0.135	3690.62533	10.196	2.916	10.307	9.456	B
(32532) Thereus	3690.63211	19.593	0.142	3690.62838	9.649	2.916	10.308	9.456	V
(32532) Thereus	3690.63415	18.443	0.070	3690.63041	8.499	2.916	10.308	9.456	I

(32532) Thereus	3695.55354	20.608	0.039	3695.54950	10.650	3.325	10.313	9.510	B
(32532) Thereus	3695.55759	20.630	0.040	3695.55355	10.672	3.325	10.313	9.510	B
(32532) Thereus	3695.56064	19.841	0.052	3695.55660	9.883	3.325	10.313	9.510	V
(32532) Thereus	3703.60048	20.562	0.039	3703.59586	10.580	3.927	10.321	9.610	B
(32532) Thereus	3703.60454	20.521	0.036	3703.59992	10.539	3.927	10.321	9.610	B
(32532) Thereus	3703.60759	19.756	0.047	3703.60297	9.774	3.927	10.321	9.610	V
(32532) Thereus	3703.60964	18.848	0.054	3703.60502	8.866	3.927	10.321	9.610	I
(32532) Thereus	3708.55528	20.375	0.038	3708.55026	10.376	4.253	10.327	9.679	B
(32532) Thereus	3708.55936	20.438	0.042	3708.55434	10.439	4.253	10.327	9.679	B
(32532) Thereus	3708.56243	19.668	0.057	3708.55741	9.669	4.253	10.327	9.679	V
(32532) Thereus	3708.56449	18.731	0.056	3708.55947	8.732	4.253	10.327	9.679	I
(32532) Thereus	3710.57468	20.504	0.050	3710.56949	10.498	4.375	10.329	9.708	B
(32532) Thereus	3710.57775	19.770	0.053	3710.57256	9.764	4.375	10.329	9.708	V
(32532) Thereus	3710.57980	18.713	0.045	3710.57461	8.707	4.375	10.329	9.708	I
(32532) Thereus	3714.54238	20.765	0.164	3714.53685	10.745	4.597	10.333	9.768	B
(32532) Thereus	3714.54646	20.569	0.148	3714.54093	10.549	4.597	10.333	9.768	B
(32532) Thereus	3714.54953	19.948	0.167	3714.54400	9.928	4.597	10.333	9.768	V
(32532) Thereus	3714.55160	19.064	0.157	3714.54606	9.044	4.597	10.333	9.768	I
(32532) Thereus	3720.56582	20.695	0.137	3720.55973	10.652	4.885	10.339	9.864	B
(32532) Thereus	3720.56992	20.646	0.143	3720.56383	10.603	4.885	10.339	9.864	B
(32532) Thereus	3720.57302	19.812	0.105	3720.56693	9.769	4.886	10.339	9.864	V
(32532) Thereus	3720.57512	18.858	0.083	3720.56903	8.815	4.886	10.339	9.864	I
(32532) Thereus	3722.56166	20.644	0.053	3722.55538	10.594	4.968	10.342	9.897	B
(32532) Thereus	3722.56576	20.631	0.059	3722.55948	10.581	4.968	10.342	9.897	B
(32532) Thereus	3722.56887	19.850	0.068	3722.56259	9.800	4.968	10.342	9.897	V
(32532) Thereus	3722.57096	18.988	0.097	3722.56468	8.938	4.968	10.342	9.897	I
(32532) Thereus	3724.54050	20.529	0.059	3724.53403	10.471	5.043	10.344	9.930	B
(32532) Thereus	3724.54461	20.519	0.046	3724.53814	10.461	5.043	10.344	9.930	B
(32532) Thereus	3724.54771	19.730	0.064	3724.54124	9.672	5.044	10.344	9.930	V
(32532) Thereus	3724.54981	18.780	0.055	3724.54334	8.722	5.044	10.344	9.930	I
(32532) Thereus	3726.53634	20.621	0.098	3726.52968	10.555	5.113	10.346	9.963	B
(32532) Thereus	3726.54044	20.537	0.077	3726.53378	10.471	5.113	10.346	9.963	B
(32532) Thereus	3726.54355	19.892	0.063	3726.53689	9.826	5.113	10.346	9.964	V
(32532) Thereus	3726.54564	18.966	0.071	3726.53898	8.900	5.113	10.346	9.964	I
(32532) Thereus	3728.53376	20.646	0.112	3728.52690	10.572	5.176	10.348	9.998	B
(32532) Thereus	3728.54097	19.923	0.064	3728.53411	9.849	5.176	10.348	9.998	V
(32532) Thereus	3728.54306	19.031	0.073	3728.53620	8.957	5.176	10.348	9.998	I

TABLE 4
Measured Absolute Magnitudes and Phase Coeficients for TNOs, Centaurs, and Nereid

Target	B_0 (mag)	B_0 Err.	V_0 (mag)	V_0 Err.	R_0 (mag)	R_0 Err.	I_0 (mag)	I_0 Err.	B' (mag deg^{-1})	B' Err.	V' (mag deg^{-1})	V' Err.	R' (mag deg^{-1})	R' Err.	I' (mag deg^{-1})	I' Err.
TNOs:																
2003 UB313	-0.314	0.018	-1.128	0.017	...	...	-1.893	0.020	-0.002	0.043	0.145	0.040	...	...	0.115	0.046
2005 FY9	0.869	0.027	0.089	0.025	...	...	-0.754	0.025	0.136	0.031	0.057	0.030	...	...	0.100	0.030
2003 EL61*	1.081	0.016	0.444	0.021	…	…	-0.259	0.028	0.085	0.020	0.091	0.025	…	…	0.132	0.033
(90377) Sedna†	2.985	0.051	1.829	0.048	1.052	0.021	0.367	0.047	...	...	...	...	0.134	0.044	...	...
(90482) Orcus*	2.908	0.026	2.326	0.030	...	...	1.503	0.032	0.179	0.032	0.115	0.033	...	...	0.197	0.036
(50000) Quaoar*	3.776	0.026	2.722	0.027	...	...	1.306	0.036	0.081	0.028	0.172	0.029	...	...	0.290	0.038
(28978) Ixion	4.733	0.043	3.812	0.044	...	...	2.713	0.074	0.186	0.045	0.100	0.045	...	...	0.082	0.074
(55636) 2002 TX300	4.226	0.046	3.407	0.089	...	...	2.736	0.048	-0.003	0.050	0.090	0.099	...	...	0.079	0.052
(55565) 2002 AW197	4.572	0.039	3.565	0.032	...	...	2.439	0.036	0.047	0.046	0.131	0.042	...	...	0.122	0.052
(55637) 2002 UX25*	4.874	0.022	3.868	0.022	...	...	2.826	0.028	0.151	0.028	0.164	0.028	...	...	0.130	0.036
(20000) Varuna*	4.732	0.025	3.764	0.035	...	...	2.569	0.033	0.262	0.033	0.274	0.048	...	...	0.195	0.045
Nereid	5.025	0.016	4.470	0.015	...	...	3.687	0.023	0.310	0.019	0.181	0.015	...	...	0.205	0.037
(119951) 2002 KX14	...	...	4.861	0.040	...	...	3.570	0.040	...	...	0.161	0.046	...	...	0.191	0.043
(120348) 2004 TY364	5.500	0.052	4.395	0.075	...	...	3.151	0.069	0.136	0.047	0.237	0.069	...	...	0.413	0.064
(38628) Huya†	6.038	0.014	5.048	0.021	4.418	0.005	4.068	0.110	...	...	0.155	0.041	0.125	0.009		
(26375) 1999 DE9	6.094	0.025	5.098	0.030	...	...	3.963	0.029	0.154	0.028	0.213	0.036	...	...	0.136	0.035
(47171) 1999 TC36	6.195	0.051	5.255	0.054	...	...	3.758	0.063	0.244	0.044	0.120	0.048	...	...	0.239	0.057
(55638) 2002 VE95	6.891	0.049	5.748	0.061	...	...	4.338	0.045	0.112	0.032	0.121	0.040	...	...	0.107	0.030
(47932) 2000 GN171*	...	...	6.368	0.035	...	...	5.084	0.035	...	...	0.143	0.031	...	...	0.281	0.033
Centaurs:																
(95626) 2002 GZ32	8.134	0.052	7.390	0.060	...	...	6.345	0.149	0.042	0.035	-0.026	0.041	...	...	-0.004	0.124
(42355) 2002 CR46	8.449	0.030	7.676	0.037	...	...	6.714	0.037	0.139	0.017	0.125	0.022	...	...	0.130	0.023

(54598) Bienor*	8.317	0.027	7.605	0.036	...	...	6.642	0.033	0.118	0.013	0.082	0.017	...	...	0.132	0.017
(73480) 2002 PN34	9.636	0.020	8.616	0.023	...	...	7.626	0.023	0.015	0.007	0.057	0.007	...	...	0.060	0.008
(29981) 1999TD10*	9.837	0.028	8.793	0.030	...	...	7.776	0.031	0.048	0.013	0.153	0.015	...	...	0.129	0.014
(8405) Asbolus*	9.762	0.031	9.087	0.020	...	...	8.130	0.019	0.065	0.006	0.055	0.005	...	...	0.052	0.004
(32532) Thereus*	10.252	0.018	9.427	0.017	...	...	8.510	0.019	0.070	0.005	0.067	0.005	...	...	0.053	0.006

* the phase curve was determined after subtraction of a rotation curve (see Table 1 for measured rotation periods).
† B_0, V_0, and I_0 are derived assuming B', V', and I' match the measured value for R'.

TABLE 5

χ^2, N, and P values for linear fits to solar phase curves (χ^2 fits for which P < 0.01 are highlighted in bold font)

Target	B			V			R			I		
	χ^2	N	P	χ^2	N	P	χ^2	N	P	χ^2	N	P
TNOs:												
2003 UB313	19.6	10	0.012	10.2	10	0.252	...	...		20.2	10	0.010
2005 FY9	15.8	8	0.015	16.3	10	0.038	...	...		4.9	10	0.773
2003 EL61	11.0	12	0.358	23.5	13	0.015	...	...		19.1	13	0.060
(90377) Sedna							19.3	12	0.037			
(90482) Orcus	17.4	9	0.015	16.6	14	0.167	...	...		22.4	14	0.033
(50000) Quaoar	19.4	12	0.036	8.8	11	0.452	...	...		11.4	12	0.327
(28978) Ixion	25.3	13	**0.008**	5.8	10	0.668	...	...		10.9	12	0.363
(55636) 2002 TX300	7.6	15	0.870	17.8	14	0.121	...	...		5.0	15	0.976
(55565) 2002 AW197	11.6	11	0.234	11.7	11	0.231	...	...		12.7	12	0.240
(55637) 2002 UX25	20.9	13	0.035	15.8	13	0.148	...	...		10.6	13	0.476
(20000) Varuna	5.0	11	0.835	20.0	11	0.018	...	...		7.0	11	0.642
Nereid	11.4	7	0.044	25.23	10	**0.001**	...	...		8.1	9	0.326
(119951) 2002 KX14				14.7	10	0.065	...	...		17.5	11	0.041
(120348) 2004 TY364	12.2	14	0.431	9.4	14	0.667	...	...		14.6	15	0.330
(26375) 1999 DE9	9.6	10	0.294	11.6	10	0.172	...	...		7.2	10	0.515
(47171) 1999 TC36	17.6	10	0.025	27.7	14	**0.006**	...	...		10.7	12	0.379
(55638) 2002 VE95	12.7	11	0.175	7.6	10	0.472	...	...		8.1	11	0.522
(47932) 2000 GN171				10.7	10	0.217	...	...		10.6	11	0.301
Centaurs:												
(95626) 2002 GZ32	7.8	9	0.350	6.4	9	0.489	...	...		5.2	8	0.516
(42355) 2002 CR46	14.8	9	0.038	3.0	9	0.886	...	...		9.2	9	0.238
(54598) Bienor	29.2	11	**0.001**	27.3	12	**0.002**	...	...		16.8	11	0.052
(73480) 2002 PN34	17.2	10	0.028	27.1	9	**0.000**	...	...		24.5	11	**0.004**
(29981) 1999 TD10	15.7	8	0.015	5.4	9	0.612	...	...		11.9	8	0.064
(8405) Asbolus	7.8	9	0.353	7.1	11	0.627	...	...		17.2	11	0.046

(32532) Thereus	8.4	8	0.211	11.7	12	0.302	...	...		8.9	11	0.450