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Globular clusters in the Magellanic Clouds – I. *BV* CCD photometry for 11 clusters

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ABSTRACT

We present here *BV* CCD data for 11 intermediate-age LMC clusters, namely NGC 1756, 1831, 1868, 1987, 2107, 2108, 2162, 2173, 2190, 2209 and 2249.

Although statistical sampling, field contamination and crowding problems have made the analysis and discussion very hard to accomplish, the observational data essentially confirm the existence of the predicted red giant branch phase transition. In particular, from the colour–magnitude diagrams of the 11 LMC clusters down to $V \sim 22$, we can conclude the following.

(1) In the $(V_{TO}, V_{Cl,m})$ plane, the models yield a very good overall description of the data. A similar agreement can also be found in the $[V_{TO}, \Delta(V_{TO} - V_{Cl,m})]$ plane, where the ordinate is, moreover, distance- and reddening-independent.

(2) With the current sample, it is still impossible to choose decisively between 'classical' and 'overshooting' models. Both sets yield a good fit to the data in luminosity, classical models being apparently better if the observational results are taken at face value.

(3) Regardless of the adopted distance modulus and reddening, the separation in colour between the main-sequence band (H-burning) and the Red Clump (He-burning) is smaller than predicted by any theoretical tracks, either classical or with overshooting. In particular, the main sequence is too red by about 0.05–0.10 mag and the Red Clump is more extended than expected.

(4) The existence of the so-called red giant branch phase transition seems to be confirmed. In particular, the behaviour of the luminosities of Red Clump stars and the red giant branch development are qualitatively consistent with the theoretical predictions. Finally, we have identified a small subset of clusters (NGC 2209, 2190 and 2162) for future deeper study (maybe with the *Hubble Space Telescope*), which are most suitable for a further detailed investigation on this subject.

Key words: stars: evolution – Hertzsprung–Russell (HR) diagram – Magellanic Clouds – galaxies: star clusters.

1 INTRODUCTION

It is now widely recognized that the globular clusters (GCs) of the Magellanic Clouds (MC) offer a unique tool for testing several predictions of stellar evolution theory, as well as for sharpening our understanding of the evolution of the integrated properties of stellar populations (van den Bergh 1981, hereafter vdB81; Renzini 1981, 1991; Renzini & Buzzoni 1986 – RB86; Bica, Dottori & Pastoriza 1986 – BDP86; Chiosi, Bertelli & Bressan 1988 – CBB88; Arimoto & Bica 1989; Brocato et al. 1989; Battinelli & Capuzzo Dolcetta 1989; Alongi & Chiosi 1989; Frogel, Mould & Blanco 1990 – FMB90; Meurer, Cacciari & Freeman 1990 – MCF90; Barbero et al. 1990; Barbaro & Olivi 1991; Bica et al. 1991 – BCDSP91; Mould 1992; Bica, Claria & Dottori 1992; Bressan, Chiosi & Fagotto 1994 – BCF94; Girardi & Bica 1993; and the proceedings edited by Chiosi & Renzini 1986; Kron & Renzini 1988; Haynes & Milne 1991; Barbuy & Renzini 1992; Smith & Brodie 1993, and references therein).

These goals require an appropriate ranking of clusters with varying ages and metallicities, and knowledge of the detailed structure of their colour–magnitude diagrams

(CMDs) and luminosity functions (LFs) based on accurate photometry, possibly carried out from the ultraviolet to near-IR bands.

Among the various topics open to investigation, we had initially singled out one specific aspect: the origin of the bimodal distribution of the integrated $B-V$ colours of MC clusters (Gascoigne & Kron 1952; Gascoigne 1971, 1980; Searle, Wilkinson & Bagnuolo 1980 – SWB; vdB81; Renzini 1981, 1992; Elson & Fall 1985, 1988 – EF85, EF88; RB86; CBB88; BCDSP91; BCF93).

The motivations for this choice are manifold, but they are part of a unique strategy aimed at using the MC clusters as *template* stellar populations for studying high-redshift (elliptical) galaxies for cosmological purposes (Chambers & Charlot 1990; Renzini 1991; BCDSP91; Bruzual & Charlot 1993; BCF94).

Very schematically (see, for instance, the discussion in RB86), if the cluster integrated colour variations could be strictly correlated to known evolutionary time-scales of well-identified cluster members, and if at least some of the primeval galaxies could be considered to comprise 'simple' stellar populations (i.e. coeval and with small metallicity spread, as in clusters), then the most evident observed colour glitches could be used as 'calibrated clocks' in the study of the epoch of galaxy formation.

Concerning specifically the integrated colour bimodality of the MC GCs, as repeatedly noticed and shown for instance in fig. 13 of RB86, a plot of the integrated $B-V$ colours versus the types defined by SWB reveals that the integrated colour transition takes place within the SWB type IV. Therefore we have mainly concentrated our observational efforts on clusters of this class, to determine the current evolutionary phases of the stars from which the observed integrated colour transition originates.

The occurrence of such a transition within SWE class IV is clearly indicated in particular by the two-colour diagrams – $(U-B,\ B-V)$ – presented by EF85 (their fig. 1) and recently by BCDSP91 (their fig. 1). Even more compelling evidence for this comes from the $(U-B,\ V-K)$ two-colour diagram here shown in Fig. 1 (see also Renzini 1991, fig. 3). In fact, from an inspection of the plot, it can be seen that, while the clusters belonging to the other SWB classes occupy sufficiently well-defined areas, those of SWB class IV are spread out over the total range of observed $V-K$ colours. Since the corresponding spread in the $U-B$ colours for these clusters is quite small, this evidence indicates that the colour transition is much more evident when considering redder bands. Hence one may conclude that red (cool) stars are probably responsible for its origin.

Several possible causes for the colour transition have been

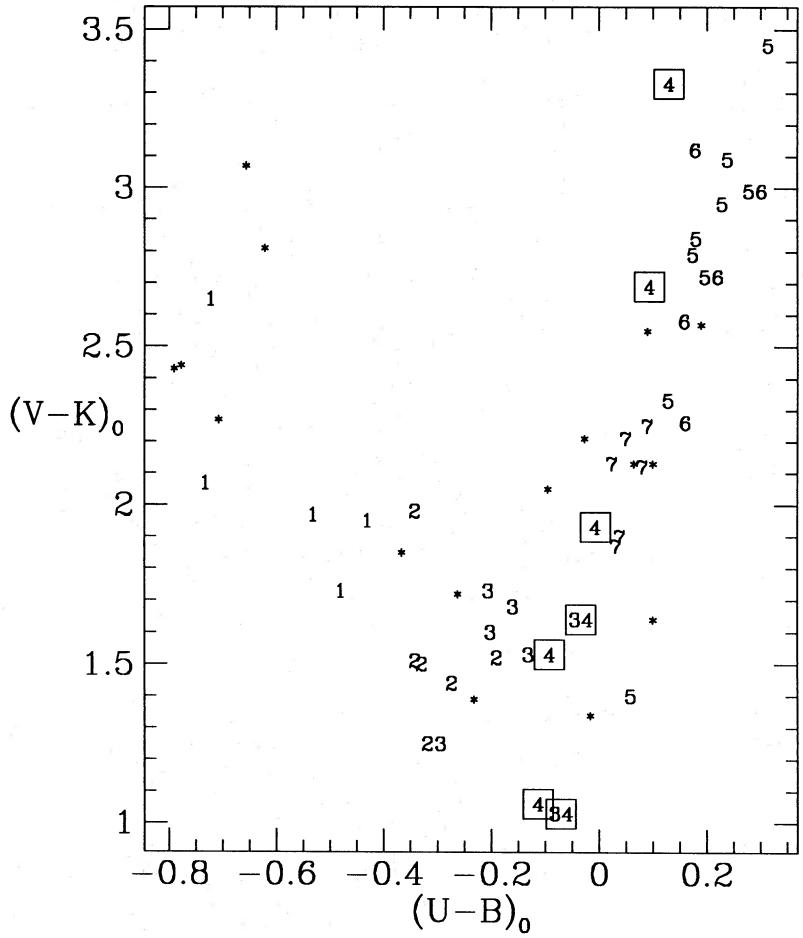

Figure 1. Two-colour diagram for LMC clusters. $(U-B)_0$ from van den Bergh (1981); $(V-K)_0$ from Persson et al. (1983). The clusters are indicated by numbers referring to SWB types; asterisks indicate clusters whose SWB classification is still lacking. Note the spread of SWB-type IV objects (boxes).

proposed so far: (i) the so-called 'asymptotic giant branch and/or red giant branch phase transitions' (Gascoigne 1971, 1980; Renzini 1981; Renzini & Buzzoni 1983; RB86); (ii) an age gap and/or effects of cluster disruption (vdB81); (iii) a peculiar age–metallicity relation inducing a 'hook' in the distribution in the two-colour diagrams (Frenk & Fall 1982); and, finally, (iv) the result of the combination of different effects (CBB88; BCF94 – age being probably the most important; Battinelli & Capuzzo Dolcetta 1989).

With the studies carried out and presented in this series of papers, we aim in particular to check observationally the idea originally proposed by Renzini (1981) and RB86 that this steep integrated colour change occurring in the MC clusters of SWB type IV may be originated by the so-called 'red giant branch phase transition' (hereafter RGB ph-t).

More specifically, the essence of the claim by RB86 is based on the model prediction first stressed by Iben (1967) that a major dichotomy exists in the properties of the RGB evolution between stars of low ($M < 2.25$ $M_\odot$) and intermediate ($2.25 < M < 8$ $M_\odot$) masses. The development of the RGB (the portion of the hydrogen-shell-burning phase spent close to the Hayashi track) occurs only if the star is less massive than a critical value (hereafter M_{HeF}) which separates core helium ignition in degenerate ($M_i < M_{HeF}$) and non-degenerate ($M_i > M_{HeF}$) conditions. The evolution of stars of initial mass about M_{HeF} has been investigated by Sweigart, Greggio & Renzini (1989, 1990) through the computation of a fine grid of sequences with standard input physics. These models show that the development of an extended RGB should occur abruptly at an age of approximately 0.6 Gyr, almost independently of chemical composition. Hence, as soon as stars of the appropriate, critical initial mass start evolving off the main sequence (MS), the *sudden* appearance of bright and red RGB stars will induce a steep integrated colour variation of the global population. In the RB86 framework (see their fig. 5), a similar colour glitch could be caused by the first appearance in the population of asymptotic giant branch (AGB) stars (see also Gascoigne 1971, 1980), and this feature too should be somehow detectable in the red and IR colours.

This overall picture has been recently revised by Renzini (1992), following the results of new evolutionary computations performed by Blöcker & Schönberner (1991). They show that, while experiencing the envelope burning, the more massive AGB stars climb quickly up to very high luminosities, where severe mass loss is likely to interrupt their evolution along the AGB. Correspondingly, the AGB phase transition is delayed until the mass of the evolving star is too low to experience the envelope burning process. As a result, the ages at which the AGB and RGB phase transitions occur become closer, and the $V-K$ colour jump can be ascribed to a combination of the AGB and RGB developments. Besides, since these stars radiate mostly in the IR, the effect on the integrated $B-V$ colours is expected to be modest.

In this respect, the RB86 working hypothesis has been tested and questioned via models and simulations, for instance by CBB88 and BCF94. In particular, BCF94 conclude that 'the phase transition (either AGB or RGB) cannot explain the gap of about 0.3 mag observed in the distribution of the $(B-V)$ colour of LMC clusters or equivalently in the relation between the cluster SWB-type and $(B-V)$. Instead, following CBB88, we attribute the gap to the complicated history of cluster formation and disruption that took place in the LMC'.

From the above discussion, it is evident that the best direct test is the quantitative analysis of the observed CMDs. Before presenting the results, however, we have to stress immediately three crucial points.

(i) Since the LMC clusters have absolute integrated luminosities of a few $\times 10^4$ $L_\odot$ and the AGB and bright-RGB lifetimes are quite short ($\leq 10^7$ yr), statistical fluctuations will dominate the counts due to the intrinsic poorness of the samples of AGB and RGB stars expected in a single cluster. This implies that many clusters should be observed and the samples properly added.

(ii) Most of the Large Magellanic Cloud (LMC) clusters are projected on a crowded background, and field contribution due to LMC stars having similar or different ages can strongly affect the counts. A proper description of the CMD properties of the LMC underlying population is therefore necessary.

(iii) The B and V photometric bands may not be the most appropriate to study the actual contribution of stars as red as the AGB and RGB objects. For this reason, we have also undertaken a parallel study in the *JHK* infrared bands, whose results are presented in a companion paper (Ferraro et al. 1994, hereafter Paper II).

Here we present a first set of data obtained from BV CCD photometry of a sample of 11 clusters in the LMC. More precisely, we deal with NGC 1756 (SWB type III), 1831 (V), 1868 (IV), 1987 (IV), 2107 (IV), 2108 (IV–V), 2162 (V), 2173 (V–VI), 2190 (IV–V), 2209 (III–IV) and 2249 (IV). They were selected at the beginning of the project by choosing a subset of the objects reported in the $(U-B, B-V)$ diagram of EF85 and located in the region corresponding substantially to SWB class IV, with $s = 31$–45 (s is defined in EF85).

For each cluster we report the results of the photometric survey that we carried out using the European Southern Observatory (ESO) telescopes. The basic aim of the observations was to obtain a preliminary general structure of the main branches in the CMDs for a very wide-ranging sample of clusters, in order to select a smaller subset including the most suitable clusters for the investigation of the RGB ph-t. As stated, Paper II of this series (Ferraro et al. 1994) is devoted to a presentation of the results of a similar survey carried out for the same clusters in *JHK* at the Cerro Tololo Inter-American Observatory (CTIO) with an IR array. Moreover, since BCDSP91 have meanwhile presented a new list of MC clusters particularly important for studying the AGB phase transition, we plan to insert a subsample of the clusters listed in their table 1 A–B into our observing material to make our analysis sharper and more complete. Future papers will then report on the next steps of the observations, a *quantitative* treatment of the CMDs and the LFs for a subset of important clusters, and a complete discussion.

2 OBSERVATIONS AND REDUCTIONS

The systematic photometric study of MC clusters, aimed at yielding a complete and really effective data set, requires a huge observational effort to obtain (1) calibrated CMDs, (2)

complete and properly decontaminated LFs, and (3) integrated photometry over concentric annuli for estimating the total sampled light and the local contribution to the total integrated light due to the unresolved and resolved stellar components in the various evolutionary stages.

In particular, one has to carry out (i) complete photometry of very crowded cluster regions, (ii) an accurate and homogeneous calibration of all the measurements into the standard system, (iii) complete photometry of the surrounding fields of the clusters to evaluate the contamination due to the MC background population, (iv) a statistical subtraction of the above contaminating objects from the star counts in different CMD regions, over different annuli, and (v) a careful check of the completeness in the search (using, for instance, the so-called 'artificial stars' method) to get appropriate corrections for the clusters' LFs.

As the operations (2) and (3) require much better data than those currently available, and further observations are still in progress, in this paper we present only the observations and the reduction procedures used to get the CMDs for all the clusters in the sample. Although still not optimal, this survey is largely sufficient to pick up a few clusters worthy of a further detailed study.

2.1 Observations

B and *V* CCD frames for the 11 clusters were obtained at the ESO–La Silla telescopes during five observing runs between 1984 and 1990. A complete diary of observations is reported in Table 1, together with information about telescopes, detectors and mean seeing conditions. All cluster frames were secured using a CCD camera with the same RCA ESO # 5 chip (320 × 512 pixel).

The sizes of the fields covered by the CCD systems are ~ 2 × 3 and ~ 2.5 × 4 arcmin^2, for the 2.2-m German and 1.5-m Danish telescopes, respectively. Both fields allow coverage of just the central regions of the clusters, while a proper MC background subtraction would have required the use of a wider mapping made with many adjacent frames (or with a detector of larger size). In the early survey we thus observed only a few test background fields close to some clusters. Such a mapping, necessary also to obtain accurate integrated photometry, proved to be insufficient to obtain safely uncontaminated luminosity functions, but no fully dedicated further observing run was awarded later to complete the original survey. We could only use, during a backup programme at ESO–NTT, EMMI with a Tektronix

Table 1. Log of the observations.

Cluster	Run	Telescope	Filter	N_B	N_V	Min. Max. exp. (s)	$< FWHM >$
NGC 1756	2,4	2.2 MPI	279,280 445,446	4	4	15 1320	1.1"
NGC 1831	2,4,5	2.2 MPI	279,280	4	4	10 1500	1.3"
		3.5 NTT	445,446	1	1	300 900	2.4"
NGC 1868	2,4	2.2 MPI	279,280 445,446	3	3	120 1500	1.5"
NGC 1987	2,4,5	2.2 MPI	279,280	3	3	15 1200	1.6"
		3.5 NTT	445,446	1	1	300 900	3.0"
NGC 2107	2,4	2.2 MPI	279,280 445,446	3	3	60 1500	1.8"
NGC 2108	4	2.2 MPI	445,446	2	2	60 480	1.5"
NGC 2162	3,4,5	2.2 MPI	445,446	2	2	900 2100	1.1"
		3.5 NTT		1	1	300 900	2.8"
NGC 2173	1,4,5	1.5 Danish 2.2 MPI	445,446	1	1	1800 3600	1.6"
		3.5 NTT		1	1	180 300	1.8"
NGC 2190	3,4	2.2 MPI	445,446	3	3	180 1500	1.2"
NGC 2209	2,4	2.2 MPI	279,280 445,446	4	4	60 1500	0.9"
NGC 2249	2,4	2.2 MPI	279,280 445,446	1	1	600 1200	1.3"

Runs: 1 - 1984 October 26–28; 2 - 1985 December 7–12; 3 - 1986 December 2–5; 4 - 1987 December 12–17; 5 - 1990 November 13. Chip: ESO # 5 RCA (runs 1, 2, 3, 4); Tektronix 1024 × 1024 (run 5).

chip (1024 × 1024 pixel, field coverage ~7 × 7 arcmin^2, 1 pixel = 0.44 arcsec) to secure a small set of frames to get some information on the fields close to some of the observed clusters.

Moreover, since only a fraction of the observing runs were fruitful, due to weather conditions and technical problems, we chose to use only the best material, as poor data can hardly add good information. The reduced frames were obtained under mean seeing conditions in the range 0.9 to 1.8 arcsec.

For all clusters, frames with different exposures were taken in order to measure bright stars in the central regions and fainter ones in the outer, less crowded zones. Using short exposures, saturation is avoided but only measurements of the brightest stars are feasible and, anyway, seeing conditions affect crucially the star detection and the photometric precision. These data for stars located in the very central regions have thus been mostly used to obtain the optical counterparts of the objects detected from the IR measurements described in Paper II.

2.2 Reductions

2.2.1 Magnitudes, colours and positions

All frames were reduced at Rome Observatory and Bologna University using ROMAFOT (Buonanno et al. 1979, 1983; Buonanno & Iannicola 1988). As usual, the reduction procedure consisted of the following steps: (1) determination of the point spread function (PSF); (2) search for the individual stellar components; (3) two-dimensional fit of each stellar component using the adopted PSF to obtain the individual volumes; (4) transformation to a standard volume system for each telescope; (5) calibration using sequences of photoelectric standards, taking into account the specific colour transformations from one telescope set-up to the other.

The calibration of the instrumental magnitudes into the B, V standard system was obtained via the following procedure. First, we carried out the aperture photometry of a large set of bright isolated stars in one open and two Galactic globular clusters, purposely observed during run No. 4 to yield the basic calibration equations. Secondly, we calibrated the instrumental magnitudes obtained in the various runs with different telescope set-ups using some isolated stars in each cluster field, common to cluster frames secured during run No. 4, to yield all the appropriate transformations. Thirdly, by using the basic equations, we then calibrated all the programme stars in each cluster to the same standard system. In the procedure, mean extinction coefficients from Rufener (1986) were adopted.

In particular, to calibrate the whole data set we used the following objects: seven stars in NGC 288, from Alcaino, Liller & Alvarado (1987) and Cannon (1974); 11 stars in NGC 2243 from van den Bergh (1977) and Bonifazi et al. (1990); and five stars in NGC 1904 from Stetson & Harris (1977). The resulting adopted calibrations, obtained for each night separately and then averaged, are

$$V = v + [22.62 \pm 0.02], \tag{1a}$$

$$B = b + [0.14 \pm 0.02](b - v) + [21.94 \pm 0.02]. \tag{1b}$$

The colour coverage of the adopted standards is not totally adequate at the blue and red extremes, and thus we cannot exclude the existence of small residual colour terms. Since the colour interval spanned by the programme stars does not reach such extreme colour values, however, apart from a few very red objects, this uncertainty should not affect the results. Finally, concerning the zero-points, since the size of the diaphragms used in the aperture photometry is seeing-dependent, faint contaminating stars could have been spuriously included when measuring some standard stars in the reference clusters. This may result in small systematic effects, which should not, however, be larger than a few hundredths of a magnitude.

Final magnitudes and colours for the 16 051 stars measured in the 11 clusters and five fields are presented on microfiche MN271/1 for each individual object (see later for details). The X, Y coordinates are always in pixels referred to the left-bottom corner of the CCD frame, and the coordinates of the adopted centres are reported in the various paragraphs discussing each individual cluster. In particular, the pixel sizes are 1 pixel = 0.36 arcsec for the 2.2-m German telescope, 0.47 arcsec for the 1.5-m Danish telescope, and 0.44 arcsec for EMMI, respectively.

Concerning the photometric errors, a direct estimate of the *internal* errors has been obtained by computing the rms scatter of all measurements available for each star from the various frames in each colour. To reduce the number of the figures presented in the paper, we report in Table 2 a list of the average internal errors in each cluster for stars brighter and fainter than $V = 19.5$. As can be seen, the internal errors are always very small.

Table 2. Internal photometric errors.

Cluster	No. frames	No. stars measured	$V < 19.5$ $\sigma(V)$	$V < 19.5$ $\sigma(B-V)$	$V > 19.5$ $\sigma(V)$	$V > 19.5$ $\sigma(B-V)$
NGC 1756	8	803	0.01	0.02	0.01	0.03
NGC 1831	8	1417	0.02	0.03	0.03	0.04
NGC 1868	6	1448	0.01	0.03	0.03	0.05
NGC 1987	6	1655	0.03	0.05	0.05	0.08
NGC 2107	6	1303	0.01	0.01	0.02	0.03
NGC 2108	4	789	0.01	0.04	0.02	0.06
NGC 2162	6	851	0.01	0.01	0.01	0.02
NGC 2173	2	616	0.01	0.05	0.03	0.08
NGC 2190	6	971	0.01	0.01	0.01	0.02
NGC 2209	6	1177	0.01	0.03	0.02	0.04
NGC 2249	2	391	0.01	0.03	0.02	0.04

Unfortunately, larger and more difficult to evaluate are the errors involved in the various transformations required to pass from the instrumental magnitudes in a given telescope set-up to the reference ones derived from run No. 4. Most of the relationships that we have determined and used were highly linear, and the rms scatter turned out to be always less than 0.05 mag. In just a few cases we found small deviations from linearity or larger discrepancies in the magnitudes. They have been specifically analysed and treated, and we can conclude that in general these sources of uncertainty should add a contribution to the total errors affecting magnitudes and colours of about 0.05 mag or less.

Finally, there are the possible *systematic* errors introduced by the transformations and, in particular, those related to the determination of the zero-points. Their quantitative estimate is at this stage difficult, as we have not had any really photometric night to link the secondary standard observed in the quoted clusters to a set of primary standard stars (for instance, from Landolt 1983). We can only say that, given the excellent internal consistency, the *absolute* errors in our zero-points should not be worse than those affecting the standard sequence of cluster stars used to yield the basic calibrations.

2.2.2 *Image blending: a general caveat*

A major problem encountered in the analysis of the obtained CMDs is due to the presence of stars in 'unexpected' zones of the diagram (for example, the Hertzsprung gap). The size of the observed population in these areas often cannot be explained by any means in terms of field contamination. Moreover, although this cannot be used as a good reason to exclude them from the group of 'normal' cluster members, these stars cannot be explained by any 'reasonable' evolutionary track either. A similar situation has already been noted while observing other crowded fields in the photometry of the central regions of Galactic globular clusters (Ferraro et al. 1991), as well as of resolved external galaxies (e.g. Greggio et al. 1993).

Our current explanation of these peculiar stars is that they could be unresolved optical binaries, i.e. stars randomly aligned very close to the line of sight so that they cannot be separated in the photometry. The validity of this suggestion has been repeatedly tested by us (Ferraro et al. 1991, 1992), as it clearly depends on the degree of stellar crowding and on the seeing conditions.

The effects of such a blending on the CMD analysis are manifold. In fact, the resulting magnitudes and colours of the blended image are the combination of those of the two individual components, and this causes the peculiar location of the photometric blend in the CMD. A thorough discussion of this subject can be found, for instance, in the papers by Stetson & Harris (1988) and Vallenari et al. (1991, 1992), and we do not add further comment on this.

In the photometry with which we are dealing, the most important blending effects are

(1) to brighten the main-sequence termination;
(2) to populate the Hertzsprung gap artificially; and
(3) to spread out all the CMD main features.

The above effects can easily be understood if one considers that the result of the blending of two stars of comparable magnitude and colour is a star having approximately the same colour but about 0.75 mag brighter. If the blended stars have comparable magnitudes but very different colours, an 'intermediate-colour' object is created. And, finally, if one or more faint stars are added to a bright object, its magnitude and colour will be slightly affected depending on the combination of the magnitudes and colours of the individual components.

Before closing this section, it may be worth adding that, because the deep analysis of blending effects is fairly complex (depending on seeing conditions, crowding, radial density gradients, depth of the exposures, etc.), one cannot even exclude the possibility that a significant fraction of the 'presumably spurious' objects are actually 'true' binaries. For instance, Vallenari et al. (1991, 1992) have carried out detailed simulations to study the impact on the derived luminosity functions arising from either true binaries or blended objects, and conclude that true binaries may be present in the clusters that they observed.

In the following sections, we generally discuss the CMD structures obtained for each cluster without dealing specifically with these aspects, but bearing in mind that the above itemized effects are present. In a specific case, NGC 1831, we will show the results of a 'zero-order' simulation that we did to explain the presence of 'intermediate-colour' objects, and to discuss briefly the comparison of our data with those presented for the same cluster by Vallenari et al. (1992).

3 THE INDIVIDUAL CLUSTERS

Although the study of the MC clusters has not been, so far, as systematic and wide as that of the Milky Way globulars, most of the clusters included in our list (for optical and/or IR observations) have already been studied to some extent, and many useful data are available. We have therefore carried out a survey of the literature (using the SIMBAD data base, at CDS Strasbourg) to collect as much information as possible on the individual objects. We report in Tables 3 and 4 a subsection of the data base that we have prepared, specifically relevant for the present BV photometric study. As can be seen from the tables, we have also included the data relative to the three clusters in Paper II for which IR data are available, but whose optical counterparts have been obtained from the literature. A very useful and complete reference list for the photometric studies in the MC clusters has been presented by Sagar & Pandey (1989).

Table 3 reports the following information – column 1: the cluster NGC identification number; column 2: identification names in other catalogues; columns 3–5: the integrated V magnitudes and $B-V$ and $U-B$ colours, respectively; column 6: the individual reddening $E(B-V)$; column 7: the SWB type as determined by SWB or in subsequent studies by various authors; column 8: the parameter s defined by EF85 and taken from various sources listed in the references. Table 4 lists the following information – column 1: the cluster NGC identification number; column 2: the age ($\times 10^8$ yr) estimated by various authors using different methods, assumptions and calibrations; column 3: the age (same units) obtained from the analysis of IR data; column 4: the estimated metallicity, [Fe/H] – the logarithmic difference with respect to the solar value; column 5: the total cluster mass; columns 6 and 7: the available estimates for the cluster

Table 3. Photometric data from the literature.

Cluster	Other names	V_{int}	$(B-V)_{int}$	$(U-B)_{int}$	$E(B-V)$	SWB	s
NGC 1756	SL 94	12.24[2]	0.40[2]	0.09[2]			32[2]
NGC 1783	SL 148	10.93[2]	0.62[2]	0.23[2]	0.10[11] 0.06[35]	$V^{1,6}$	37[4] 38.0[11]
NGC 1806	SL 184	11.10[2]	0.73[2]	0.26[2]	0.12[3]	V^{1}	40[4]
NGC 1831	SL 227 LW 133	11.18[2] 10.59[28]	0.34[2] 0.35[28]	0.13[2]	0.10[3] 0.05[39] 0.04[35] 0.07[11]	V^{1}	31[4] 32.7[11]
NGC 1868	SL 330 LW 169 ESO 085-SC56	11.56[2]	0.45[2]	0.15[2]	0.07[3]	$IV^{6,7}$	33[4] 34.5[11]
NGC 1978	SL 501	10.70[2]	0.78[2]	0.23[2]	0.10[3] 0.07[11] 0.19[11]	VI^{1}	45[4] 43.8[11]
NGC 1987	SL 486	12.08[2] 11.50[14]	0.52[2]	0.20[2]	0.12[3,14]	IV^{1}	35[4] 35.1[11]
NGC 2107	SL 679	11.51[2]	0.38[2]	0.13[2]	0.19[3]	IV^{1}	32[4]
NGC 2108	SL 686	12.32[2]	0.58[2]	0.22[2]	0.18[3]	$IV-V^{7}$	36[4]
NGC 2162	SL 814	12.70[2]	0.68[2]	0.31[2]	0.07[3] 0.05[11] 0.04[23] 0.06[24]	V^{1}	39[4] 40.5[11]
NGC 2173	SL 807 LW 348	12.30(62")[2] 13.28(25")[2]	0.84[2] 0.86[2]	0.34[2] 0.50[2]	0.07[3,11] 0.12[25]	$V-VI^{1}$ $VI^{6,7}$	42[4] 42.5[11]
NGC 2190	SL 819 LW 357 ESO033-SC36				0.10[23]		
NGC 2209	SL 849 LW 408	13.15[2]	0.53[2]	0.20[2]	0.07[3] 0.15[38] 0.06[11]	$III-IV^{1}$	35[4] 36.9[11]
NGC 2249	SL 893 LW 479	12.23[2] 12.17(100")[8] 11.94(150")[8]	0.43[2] 0.39[8] 0.42[8]	0.20[2] 0.21[8] 0.20[8]	0.12[11] 0.10[32]		34[4] 33.6[11]

References: see Table 4.

Table 4. Astrophysical data from the literature.

Cluster	$t_8(op)$	$t_8(ir)$	[Fe/H]	$M_{tot} \times 10^5 (M\odot)$	r_c	r_t	v_r
NGC 1756	3.5[4] 3.8[5]						
NGC 1783	33±3[7] 9[27] 16[30] 11[12] 25[10a] 7.9[10b]	< 30[14]	-0.9±0.4[7] -0.45±0.3[18]	3[30]	4.9±0.4 pc		274[40] 277[6]
NGC 1806	43±3[7]	< 30[14] < 40[15]	-0.23[40] -0.7±0.35[7]	0.9[33]	3.7pc[33]	58.8pc[33]	225[40] 220±10[6]
NGC 1831	25.7[11] 3.5cl[39] 5.5ov[39] 4[21]	< 25[14] < 40[15]	0.01[40] -0.33[39] -0.1[29] -1.2[18]	0.4[34]	11.8"[35] 5.4pc[34]	187"[35] 54pc[34]	280[40] 253±13[6]

Table 4 – *continued*

Cluster	$t_8(op)$	$t_8(ir)$	[Fe/H]	$M_{tot} \times 10^5 (M\odot)$	r_c	r_t	v_r
	6.3^{10a}						
	25^{10b}						
	5^{29}						
NGC 1868	$5^{8,11,7}$	7^{16}	-0.50^{40}		$6.1''^{37}$		283^{40}
	7^{26}		-0.6 ± 0.35^{7}				260 ± 30^{6}
	3.3^{5}		-1.2^{9}				
	10^{9a}						
	17.8^{9b}						
	13.5^{9c}						
NGC 1978	$21^{12,26}$	$< 60^{13}$	-0.5 ± 0.2^{18}	3^{33}	3.0pc[28]		293.3^{40}
	25.1^{11}	$< 15^{14}$	-0.7^{12}				286 ± 8^{6}
	$20^{26,30}$	$< 20^{15}$	-0.42^{40}				293 ± 3^{41}
	66^{7}		-1.1^{7}				
	19.9^{9a}						
	14.1^{9b}						
	17.8^{9c}						
	$12.2–19.9^{9d}$						
NGC 1987	8 ± 3^{7}	$< 25^{14}$	-1.0 ± 0.3^{7}		2.9 ± 0.3pc[37]		253 ± 23^{6}
	15^{4}	$< 30^{15}$					
	4.7^{11}						
NGC 2107	4^{37}	$< 10^{14}$		0.9^{34}	3.4 ± 0.4pc[37]	54pc[34]	248 ± 13^{6}
		$< 15^{15}$			5.4pc[34]		
NGC 2108	7.9^{37}		-1.2 ± 0.2^{7}		2.5 ± 0.4pc[37]		
	22 ± 3^{7}						
NGC 2162	38 ± 4^{7}	$< 10^{14}$	$-0.23^{24,40}$				322^{40}
	7.41^{11}	$< 11^{15}$	-0.2^{23}				
	$10^{23,24}$		-1.35 ± 0.3^{7}				
	15.8^{10a}		-1.2^{10}				
	12.6^{10b}						
NGC 2173	21 ± 4^{7}	$> 50^{13}$	-1.4 ± 0.2^{7}	0.5^{34}	$6.2–1.9$pc[34]	62pc[34]	241^{40}
	65 ± 7^{7}	$< 100^{15}$	-0.24^{6}				232 ± 22^{6}
	15.1^{11}		-0.75 ± 0.4^{25}				
NGC 2190	10^{23}	$< 40^{13}$	-0.12^{40}				260^{40}
	12.6^{9a}	$< 25^{14}$	-1.2^{9}				
	39.8^{9b}	$< 30^{15}$	-0.2^{23}				
	22.4^{9c}						
	$17.4–26.3^{9d}$						
NGC 2209	8.4 ± 2^{8}	$< 40^{13}$	-1.2^{17}		5.0pc[36]		255^{40}
	11^{11}	$< 20^{14}$	-0.9 ± 0.3^{7}				
	10^{36}	$< 30^{15}$	-1^{19}				
	7 ± 1^{5}						
	12 ± 2^{38}						
	12 ± 3^{7}						
	8^{22}						
	15.9^{9a}						
	20.9^{9b}						
	17.8^{9c}						
	$15.8–25.1^{9d}$						
NGC 2249	$5.5\pm1.5^{8,31}$		$.002 < Z < .015^{31}$				
	$6^{11,31}$						
	7^{31}						

Notes. Column 6: 1 pc at $(m-M)_0 = 18.5$ corresponds to 4.12 arcsec.

References: (1) Searle et al. (1980); (2) van den Bergh (1981); (3) Persson et al. (1983); (4) Elson & Fall (1985); (5) Elson & Fall (1988); (6) Freeman, Illingworth & Oemler (1983); (7) Bica et al. (1986); (8) Bica et al. (1991); (9) Chiosi et al. (1986); (10) Chiosi et al. (1988); (11) Meurer et al. (1990); (12) Frogel et al. (1990); (13) Mould & Aaronson (1980) (AMMAI); (14) Aaronson & Mould (1982) (AMMAII); (15) Mould & Aaronson (1982) (AMMAIII); (16) Aaronson & Mould (1985) (AMMAIV); (17) Gascoigne (1980); (18) Cohen (1982); (19) Rabin (1982); (20) Hodge (1983); (21) Hodge (1984); (22) Flower (1984); (23) Schommer et al. (1984); (24) Chiosi & Pigatto (1986); (25) Mould et al. (1986); (26) Mould & Da Costa (1988); (27) Mould et al. (1989); (28) Mateo (1987); (29) Mateo (1988); (30) Mateo (1992); (31) Jones (1987); (32) Burstein & Heiles (1982); (33) Kontizas, Chrysovergis & Kontizas (1987); (34) Chrysovergis, Kontizas & Kontizas (1989); (35) Westerlund (1990); (36) Elson (1991); (37) Elson (1992); (38) Dottori et al. (1987); (39) Vallenari et al. (1992); (40) Olszewski et al. (1991); (41) Fischer, Welch & Mateo (1992).

Reference 10: (*a*) AGB star tip luminosity; (*b*) MS fitting with overshoot.

Reference 9: (*a*) MS fitting with overshoot; (*b*) Red Clump luminosity; (*c*) coincidence of Red Clump and MS; (*d*) AGB tip luminosity, with various mass-loss parametrizations.

structural parameters r_c, the core radius, and r_t, the tidal radius, in pc or in arcsec (note that, assuming for the LMC a distance modulus of ~18.5, 1 pc ~4.12 arcsec); column 8: the radial velocity in km s^{-1}.

From an overall inspection of the data base presented in Tables 3 and 4 here, and in similar ones for IR data (Paper II), it can be seen that integrated colours are available for almost all of the clusters, both in the optical and in the IR bands. Frequently, there are also UV colours obtained with *IUE* (Cassatella, Barbero & Geyer 1987; Barbero et al. 1990; MCF90, and references therein).

Concerning the estimates of age and metallicity, in some cases several values are available for each object. The agreement among the various values is quite poor, however, even if often derived from the same original data. The analysis of this discrepancy is interesting, as it indirectly reveals the impact of the different assumptions and methods adopted in the studies. We will not enter into a comparison here, nor into a detailed estimate of these parameters from our photometry, as this will be the subject of a future paper of this series specifically devoted to this quantitative aspect. It will be shown in Section 4 (Figs 36 and 37), however, that it may be easy to get a reliable ranking in age just from the direct comparison of the overall CMDs.

The knowledge of structural cluster parameters is still poor. The estimates are generally uncertain and frequently affected by the background. They may be useful here, however, especially to compare the location and extent of the surveyed cluster areas with the intrinsic sizes describing the whole cluster.

In the following subsections, we report some specific details on the individual clusters and on our photometry. In particular, we present the maps of the measured stars and the CMDs in a standard format. In the maps, the sizes of the symbols are proportional to the stellar magnitudes, and the circles mark the annuli (or the regions) used to obtain the radial subdivision of the total stellar sample to yield the individual CMDs shown in panels (b)–(d) of Figs 3, 6, 9, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32 and 34. This subdivision is done in order to get an idea of the contribution of the LMC field to the total CMD. Galactic stars may also contaminate the CMDs of the clusters: Table 5 lists the expected number of foreground objects on the basis of the Ratnatunga & Bahcall (1985) star counts. These figures will be taken into account when discussing the CMDs of some clusters.

Finally, to allow a first direct comparison of the properties of the various clusters (see Section 4), we have determined the following by eye: (1) the locations in magnitude and colour of the main-sequence turn-off (MS-TO), the Red Clump (RCl), and the MS ridge line; and (2) the zones of the CMD that include the bulk of the stars located in the MS, the RCl and the RGB (if any). The values obtained for these CMD observables in each cluster are used in the global discussion (see Section 4).

3.1 NGC 1756

3.1.1 General information

This cluster is located in a rich area to the west of the LMC bar. It was not extensively studied in the past, so that only integrated quantities were available before our photometry. The SWB classification is lacking, and vdB81 included NGC 1756 in his 'old' sample. On the other hand, based on the vdB81 data, EF85 obtained $s = 32$, corresponding in their s–age calibration to $t \sim 3.5 \times 10^8$ yr.

A few individual stars were observed in some general surveys. In particular, Aaronson & Mould (1985, hereafter AMMAIV) observed a bright AGB star, previously detected by Lloyd-Evans (1980, hereafter LE80). Further details on these specific objects will be given in Paper II.

3.1.2 Photometry and CMD structure

Eight frames were measured in total to construct a catalogue of BV data for 803 stars reported in Table 6 (on microfiche MN271/1). Fig. 2 shows the map of the measured stars, and the CMDs are presented in Fig. 3. The coordinates of the adopted cluster centre referred to the standard frame (V, 15 min) are $X_c = 176$, $Y_c = 268$ pixel. The radii of the circles drawn on the map are 40 and 180 pixel.

The cluster surface density is not high, and crowding is not too severe, although the background MC field is highly populated. Judging from the map, the cluster size seems to be small (with a diameter of ~60 arcsec, corresponding to ~15 pc). There is also a slightly denser concentration of stars to the upper left of the cluster, which might resemble the structures that led Bhatia et al. (1991) to suggest the existence of 'binary' clusters. To highlight this possible aggregate, we plot on the map a dotted circle off-centred with respect to the adopted cluster centre.

Table 5. Milky Way foreground.

	13–15	15–17	17–19	19–21	21–23
$B-V<0.8$	0.041–0–3	0.086–1–5	0.091–1–6	0.190–1–12	0.180–1–11
$0.8<B-V<1.3$	0.16–0–1	0.078–0/1–5	0.160–1–10	0.130–1–8	0.220–1–13
$1.3<B-V$	0.003–0–2	0.017–0–1	0.110–1–7	0.390–2–24	0.870–5–53

Notes: for each entry, the first number is the number of stars per square arcmin; the second is the number of stars expected over an area covered by the RCA CCD + the 2.2-m telescope; the third is the number of stars expected over an area covered by EMMI + NTT.
Areas covered: RCA + 2.2-m = 6 square arcmin; RCA + 1.5-m = 10 square arcmin; NTT = 61.4 square arcmin.
Reference: Ratnatunga & Bahcall (1985).

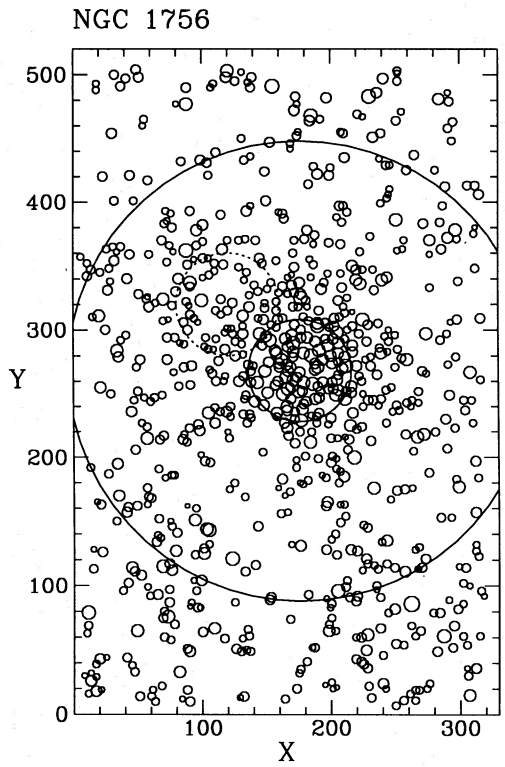

Figure 2. Computer map of measured stars in NGC 1756, listed in Table 6. Coordinates are in pixels (1 pixel = 0.36 arcsec for the 2.2-m telescope). The solid circles, drawn at $r = 40$ and $r = 180$ pixel and centred at $X_c = 176$, $Y_c = 268$ pixel, indicate the annuli selected to yield the CMDs presented in the panels (b), (c) and (d) of Fig. 3. The dotted circle indicates the 'suspected' twin-cluster area (see Fig. 4).

The CMD of the total sample of measured stars is presented in Fig. 3(a). Those referring to the various radial regions are given in the other panels of Fig. 3. From the plots it can be seen that the cluster and the contaminating field have very different overall CMD structures.

In particular, three main features are visible in looking at the total CMD: a long MS extending up to $V \simeq 16.5$ and two red clumps. The brighter clump is actually triangle-shaped and dispersed in the colour range $0.5 < B-V < 1.7$; the fainter one is more compact and located at $V \simeq 19.5$, $B-V \simeq 1.0$. The radial CMDs show that both the bright MS and the fainter clump probably belong to the field, while the cluster displays a slightly fainter MS termination than the field, and a bright dispersed clump.

Concerning the field, by using the present data one might also get some indication favouring the existence of two MC field populations. In fact, although selection and photometric effects could not be firmly excluded, it seems remarkable that the seven brightest MS stars are located in peripheral zones with respect to the cluster and are probably non-members. On the other hand, the bulk of the field stars are surely older than the cluster, and account for the rich and concentrated fainter RGB. It seems therefore possible that the brightest blue objects and the few bright and red stars visible in panel (d) could represent the evolving members of a younger population superimposed on the same region.

Since we noticed from the star map in Fig. 2 the curious possibility that a 'twin' cluster could be present, we report in Figs 4(a) and (b) the CMDs of the stars included within (a) the central cluster region ($r < 40$ pixel), and (b) the dotted circle, possibly delimiting the 'twin' cluster. It is easy to see that the two CMDs appear quite different, but the one for the 'second' cluster resembles very closely the field CMD in Fig. 3(d). Hence the stellar grouping detected on the map is probably simply a chance clumping of MC field stars.

A further comment can be added about the nature of the intermediate-colour stars in the brighter clump and of those located between the MS and the red faint clump. Starting with the latter group, it seems evident from the radial CMDs that the number of stars decreases with increasing distance from the cluster centre, i.e. a decrease of the crowding conditions. Hence the natural explanation of the intermediate-colour stars may be that they mostly result from a photometric blending between an MS star and a Red Clump object (see Section 2.2.2).

Turning to the bright group of stars, it is much more difficult to match their magnitudes and colours by blending an MS star with a Red Clump member. We are therefore inclined to believe that these stars most probably are single objects (maybe cepheids) and that the extension of the Red Clump is nothing but the Cepheid loop, as expected in moderately young populations. On the other hand, we do not have a number of frames suitable to verify the existence of variability in these objects.

3.2 NGC 1831

3.2.1 General information

This object, located several degrees to the north of the LMC bar, is one of the best-studied LMC clusters. Photometry of individual stars was performed by Hodge (1963, 1984), Mateo (1988) and Vallenari et al. (1992, hereafter VCBMO92). It has been classified SWB class V and $s = 31$, corresponding in the EF85 calibration to an age $t \simeq 2.4 \times 10^8$ yr. As can be seen from Table 4, many other estimates of the age are available, found by using different methods. Aaronson & Mould (1982, hereafter AMMAII), for instance, used the luminosity of the AGB tip to determine the age. As they noted, however, this method gives only an upper limit because of the uncertainties in determining the real luminosity of the AGB tip, and also because of the poorness of the available AGB samples.

VCBMO92 have recently carried out a careful and complete study of this cluster. Their age estimates, based on the isochrone fitting method, are $t \sim 5.5 \times 10^8$ yr using models that include convective overshooting, and $t \sim 3.5 \times 10^8$ yr if 'classical' models are adopted. In particular, they noticed that the consideration of the CMD alone is insufficient to disentangle the problem of the age determination, whereas, if the CMD and the LF are studied simultaneously, one can conclude that the models with convective overshoot give a much better representation of the observables. Within this framework, it is also interesting to notice that VCBMO92 have also taken into account the possible influence on the age estimates from either true binaries or blended objects. Their conclusion is that the existence of this type of star in the CMD and LF does not alter their results.

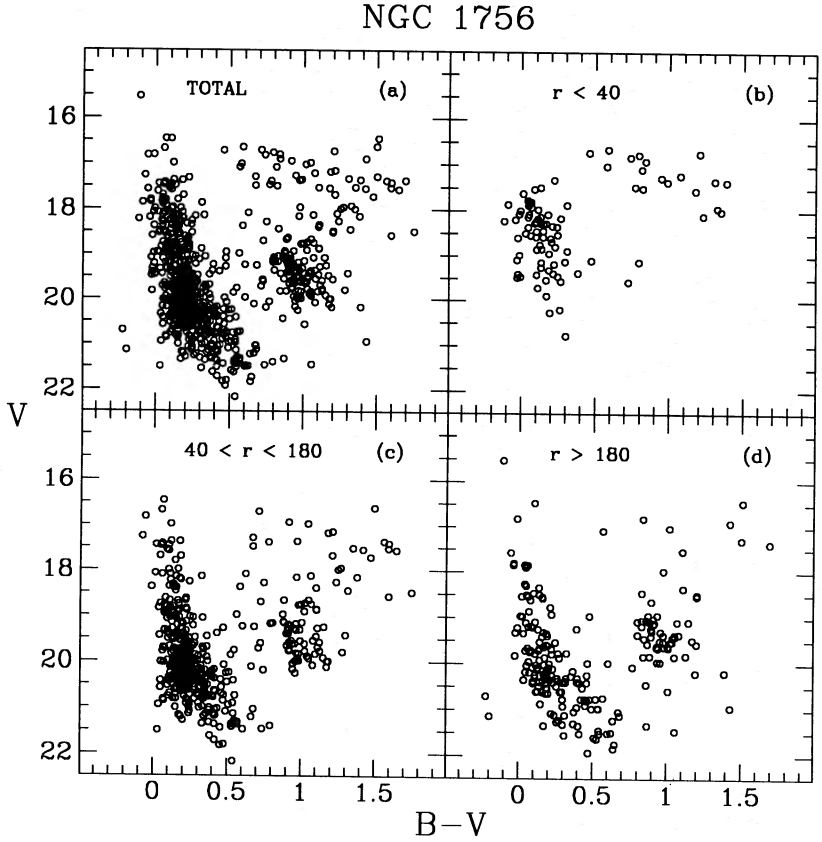

Figure 3. Radial CMDs for NGC 1756. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 2.

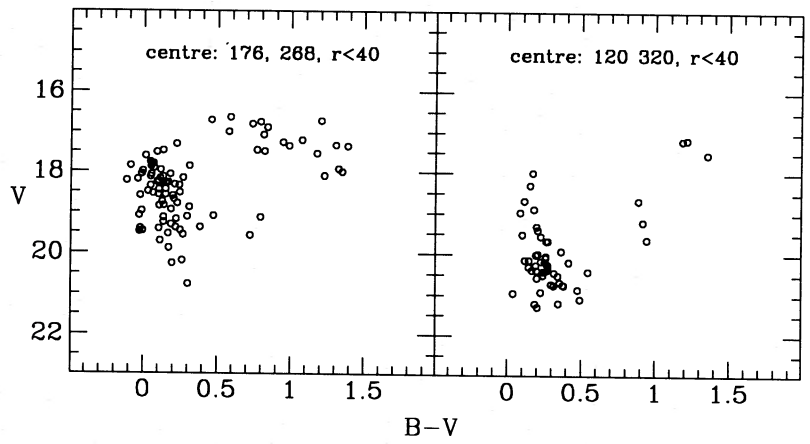

Figure 4. (a) CMD for the 'core' of the cluster NGC 1756 (same as panel b in Fig. 3); (b) CMD for the area within the dotted circle in Fig. 2.

3.2.2 Photometry and CMD structure

Six frames were originally reduced for this cluster, and a catalogue of 1417 measured stars has been obtained (Table 7a, on microfiche MN271/1). On the reference frame (V, 18 min) the coordinates of the adopted centre are $X_c = 160$, $Y_c = 260$ pixel. As usual, the stars in the central regions were measured on the short-exposure frames and the outer stars were measured in the deep ones. This explains why there is a clear discontinuity in the stellar radial distribution in the map presented in Fig. 5, where the two circles show the locations of $r = 90$ and 180 pixel. The resulting CMDs are presented in the panels of Fig. 6.

Looking at the total CMD (panel a), the first feature to be noted is the unusual richness of stars located between the MS and the RCl, in strong contrast with the predictions of any theoretical model. The obvious photometric interpretation for these objects is that they are nothing but optical blends between an MS star and an RCl object (see Section 2.2.2). This fact is clearly confirmed here by looking at the radial

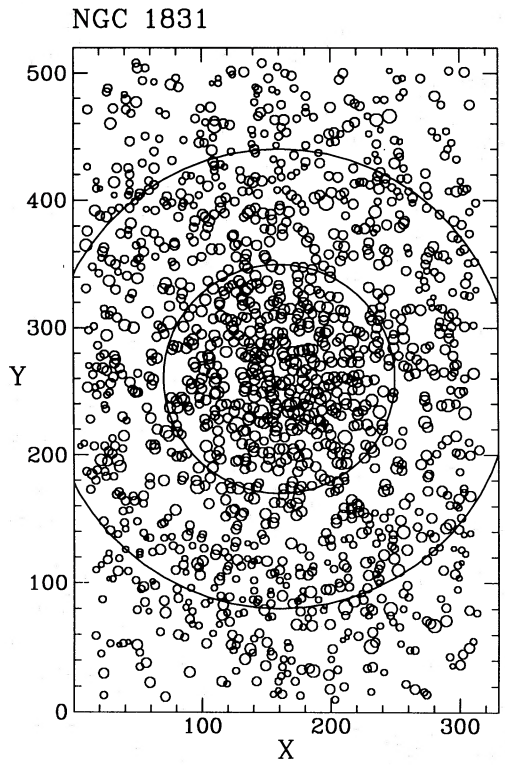

Figure 5. Computer map of measured stars in NGC 1831, listed in Table 7(a). Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles are plotted at radii of 90 and 180 pixel from the cluster centre, located at $X_c = 160$, $Y_c = 260$ pixel (see text).

CMDs and by recalling the poor seeing conditions during our observations. In fact, such stars are present only in the CMD of the inner central region (panel b).

As repeatedly done in the photometric studies that we have recently carried out (Ferraro et al. 1991), we have performed a simulation to verify whether it is actually possible to get such blends starting from an MS and an RCl star. Figs 7(a) and (b) present the result of the simulation, which can be considered a prototype to be used for any other cluster like this one.

In Fig. 7(a), the stars to which the deblending procedure has been applied have been marked with open circles. As can be seen from Fig. 7(b), when resolved, the blue components lie within the MS while the red ones populate the RCl.

The result of this test thus shows an almost complete depopulation of the CMD in the intermediate zone. The validity of this interpretation is further confirmed in this specific case by comparison with the latest CCD photometry carried out by VCBMO92, described below.

Turning to the CMD of the outer regions, there is quite a narrow MS with a well-defined clump. In the intermediate annulus, which is less affected by photometric problems and still probably dominated by cluster members [it covers the radial range 32.4–64.8 arcsec, with a cluster $r_c \sim 11.8$ arcsec (VCBMO92)], there is also no clear evidence for the presence of any well-developed RGB, while there are perhaps a few candidate AGB stars. This fact is important, as it implies that the RGB ph-t has not yet taken place.

Concerning the field, the close similarity with the cluster is evident from the outer CMD (panel d). As observed by

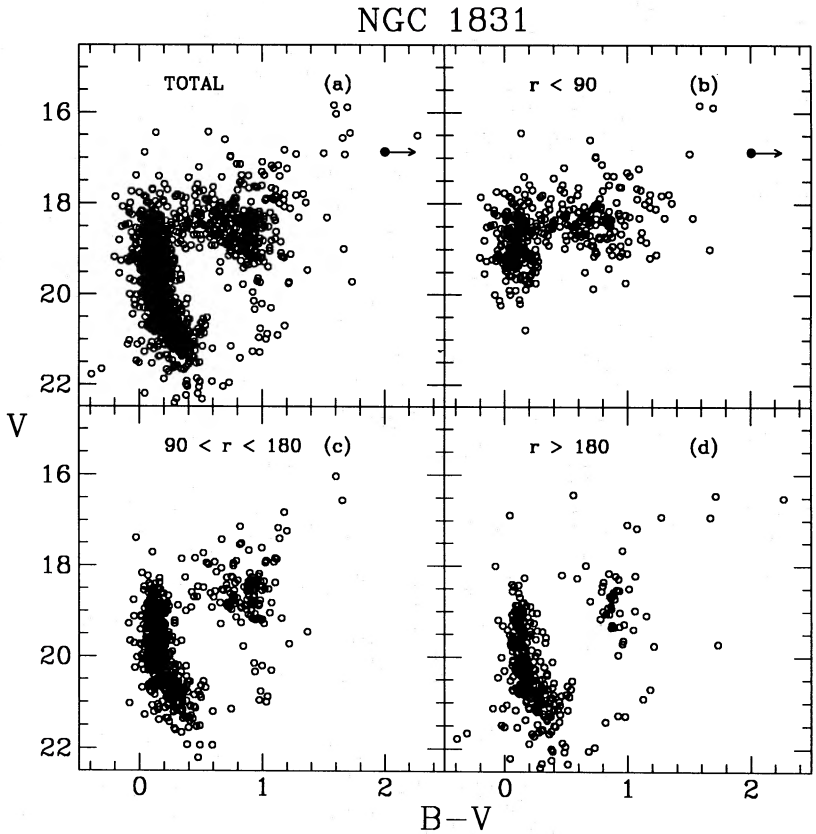

Figure 6. Radial CMDs for NGC 1831. The radii reported in panels (b), (c) and (d) are in pixels and refer to the radii drawn in Fig. 5. The object indicated by the arrow is the star 816, whose actual colour is $B - V = 4.24$.

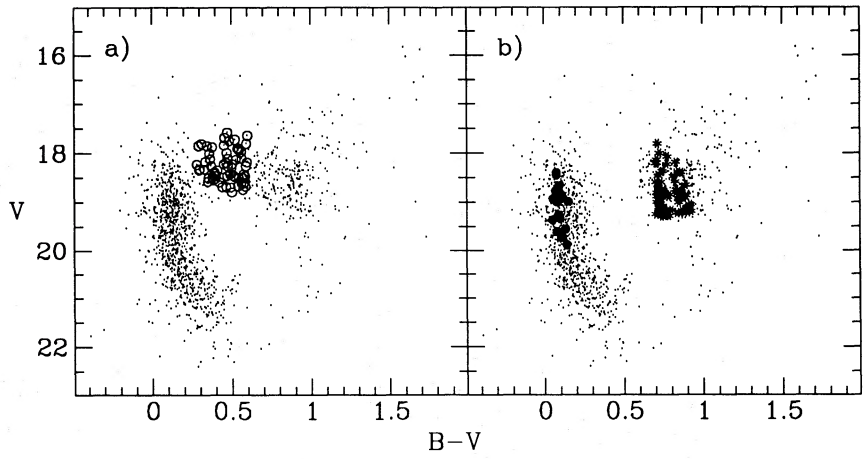

Figure 7. Deblending simulation for NGC 1831. Circles in the left-hand panel (a) indicate the stars to be deblended. In the right-hand panel (b), stars marked on the main sequence with solid circles are the blue components, while asterisks indicate the red components of the pairs. As can be seen, the simulation depopulates almost completely the Hertzsprung Gap, as expected if they are just optical blends.

Bertelli et al. (1992), this phenomenon is common for other LMC clusters. Looking only at the two bottom panels (c and d) in Fig. 6, one might conclude that the termination point of the MS is slightly fainter in the outer field, suggesting a somewhat greater age than that of the cluster itself. On the other hand, some of the brightest cluster MS members could actually be binaries (true or photometric blends), thus mimicking a brighter TO.

In order to investigate this problem, as already mentioned in Section 2, we secured some CCD frames using the ESO-NTT. In Fig. 8 we show the map of the measured stars, in Fig. 9 the CMDs obtained, and in Table 7(b) (on microfiche MN271/1) we list the data. The two circles in Fig. 8 show the locations of $r = 255$ and 380 pixel. The CMDs essentially confirm the previous results, but do not yet allow the proper determination of the bright MS, as there is a plume of bright stars even at quite large radial distances from the cluster centre ($r > 3$ arcmin, with a cluster estimated at $r_t \sim 187$ arcsec) which deserves further study.

Another quantitative estimate of the field contamination comes from the count of the number of expected field stars obtained by normalizing the field star number per surface unit to the cluster area. From such a calculation, we derive the result that the field component has to contribute ~120 stars down to the measured limiting magnitude, which would correspond to ~9 per cent of the total stars measured over the frame shown in Fig. 5. We secured for this cluster a further set of CCD frames, and their analysis is in progress. In a future paper (Testa et al., in preparation) we will present in detail our results and make a direct comparison with the data obtained from VCBMO92. In the following we will only briefly report the main outlines of this comparison.

3.2.3 Preliminary comparison with the photometry of VCBMO92, and some important clues on the reliability of the samples

In order to understand some of the crucial photometric problems that affect the study of CMDs and LFs of globular clusters, it is instructive to compare in detail the data derived by different authors on the same cluster. In this spirit, we are

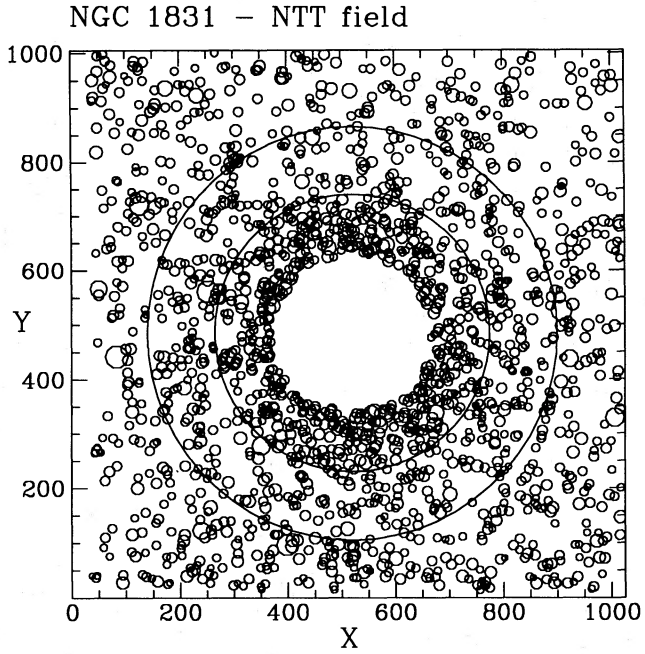

Figure 8. Computer map of measured stars in the NTT field near NGC 1831, listed in Table 7(b). Circles are drawn at $r = 255$ and $r = 380$ pixel from the cluster centre, located at $X_c = 520$, $Y_c = 485$ pixel (scale = 0.44 arcsec pixel^{-1}).

currently performing a comparison of our present data on NGC 1831 and those obtained with the same equipment at ESO, but with better seeing (~1 arcsec), by VCBMO92. We report here some preliminary results.

Fig. 10 shows the CMDs of NGC 1831 derived by us and by VCBMO92 for different samples of objects. In the various panels we display the following: (a) and (b): the stars measured in the central area ($r < 100$ pixel) in common between the two photometries (BOLOGNA = this paper; PADUA = VCBMO92), plotted with the original values; (c) and (d): the stars detected in the same central region and *not*

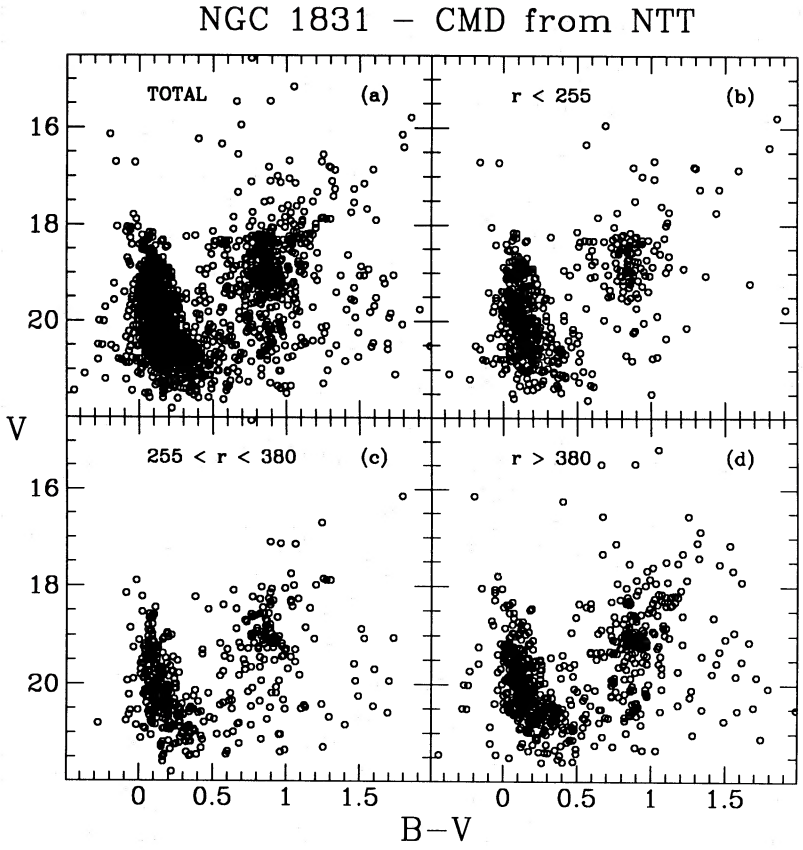

Figure 9. Radial CMDs for the measured stars in the NTT field near NGC 1831, listed in Table 7(b).

in common between the two studies; (e) and (f): the stars measured in the external annular area ($100 < r < 250$ pixel) in common; (g) and (h): the stars measured in the same external area and *not* in common.

First, we note that a large fraction of the stars *not* in common between the two photometries are located in the annular region connecting the two zones, which we measured with a shorter exposure time (as clearly visible in the map shown in Fig. 5). Hence one has to be very careful in comparing total numbers of stars, and we are currently re-reducing all our available frames to allow us to make *quantitative and complete* comparisons.

In spite of this limitation, we can make some important preliminary observations.

(i) Although the number of stars measured in each branch varies significantly, the overall CMD structure *and* the values of the main observables (see Section 4) are totally unaffected by the use of a different set of observations. This ensures that the conclusions we are going to draw from our global data are reliable and do not depend on the still-incomplete sample available.

(ii) The LFs are strongly dependent on the observations and treatment of the data. Their proper handling is very difficult, and requires the availability of many excellent frames taken with the appropriate resolution and depth, and covering a very wide area of the cluster and of the surrounding fields. Hence the strategy of carrying out a preliminary survey to pick up the clusters that may be crucial for a further dedicated special study may be very effective.

In conclusion, while morphological information is at hand for many clusters, a reliable quantitative description of the LFs can hardly be secured by starting from the present data. A typical example of how small differences in the data set (coupled with differences in the statistical treatments and model assumptions) can affect the conclusions is presented, for instance, by the studies of NGC 1866 (Brocato et al. 1989; Chiosi et al. 1989).

3.3 NGC 1868

3.3.1 General information

This cluster, located in a remote northern zone of the LMC, more distant from the LMC bar than is NGC 1831, was not classified by SWB, but BDP86 assigned it SWB type IV. vdB81 considered NGC 1868 as 'intermediate', while EF85 estimated $s = 33$. Various CMDs have been presented so far for this cluster (Flower et al. 1980; Hodge 1983; Flower 1984). Age determinations are available from many authors, who have used different methods. The agreement is, however, quite poor (see Table 4). In addition, AMMAIV analysed the late-type stellar content in the *J*, *H* and *K* bands, studying in particular one star identified by LE80 (see Paper II).

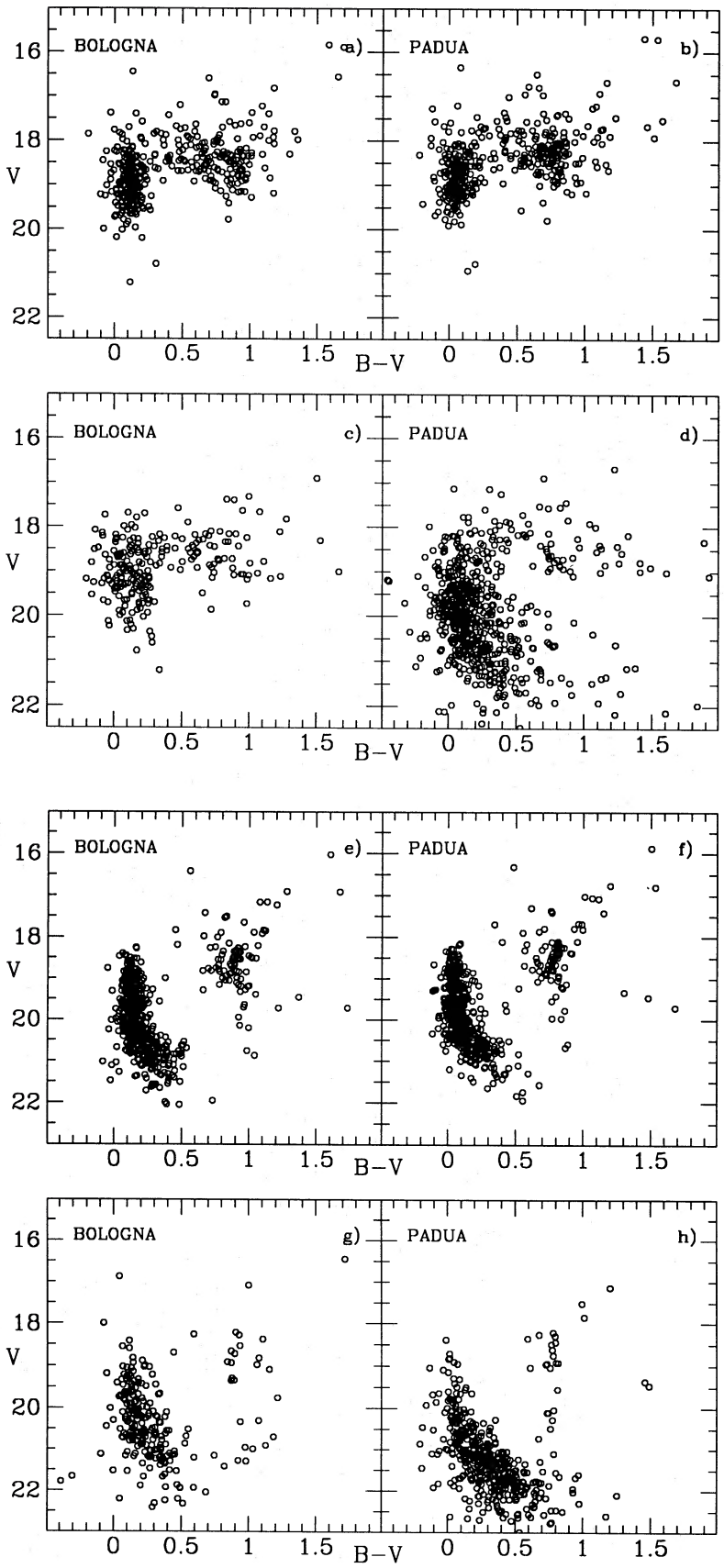

Figure 10. CMDs for stars measured in the present photometry ('BOLOGNA') and by Vallenari et al. (1992) ('PADUA') for NGC 1831. The plots show (a), (b) stars in common within the inner annulus; (c), (d) stars not in common within the inner annulus; (e), (f) stars in common in the outer annulus; (g), (h) stars not in common in the outer annulus.

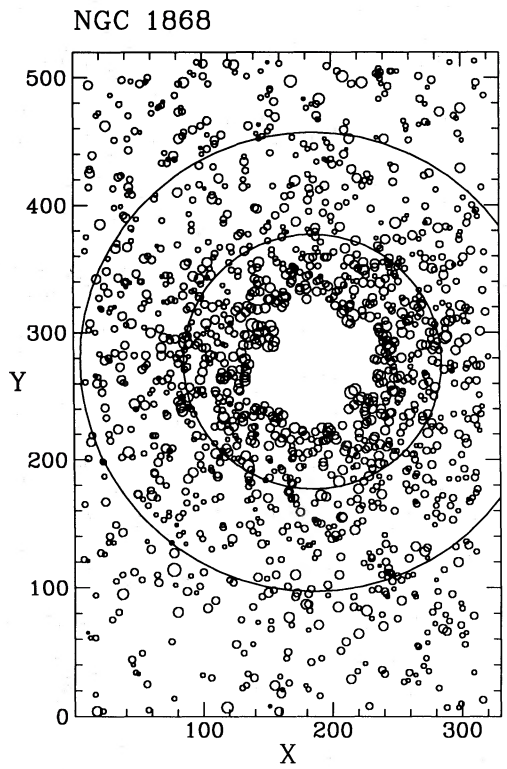

Figure 11. Computer map of measured stars in NGC 1868, listed in Table 8. Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles are plotted at radii of 100 and 180 pixel from the cluster centre, located at $X_c = 180$, $Y_c = 273$ pixel (see text).

3.3.2 *Photometry and CMD structure*

Four frames were used in the photometry, giving data on 1448 stars, presented in map form in Fig. 11 and listed in Table 8 (on microfiche MN271/1). The adopted cluster centre has coordinates in the reference frame (*V*, 12 min) of $X_c = 180$, $Y_c = 273$ pixel. Looking at the CMDs, presented in Fig. 12, we note features similar to those found in NGC 1831 discussed above. The MS is well defined, although many scattered stars are present, probably as a result of the photometric errors being slightly larger than in other objects because of the poor seeing conditions. The RCl is small and compact, with a few RGB stars which are, however, mostly present in the outer fields. They are probably field objects, but we cannot exclude the possibility that a few RGB stars may be located in the central cluster regions where we could not carry out sufficiently reliable photometry because of crowding.

Concerning the differences between the cluster and the underlying field, it seems from a comparison of panels (c) and (d) that the field is probably older. In fact, the termination point of the MS is fainter for the field, and also the clump is slightly brighter and bluer, as expected with increasing age (see Section 4). The brightest MS stars form a sort of group, divided by a small gap from the other fainter MS stars. This could be due to just a statistical fluctuation or to blending effects. A simulation devoted to the deblending of stars on the bluer clump failed to depopulate that feature, so strengthening the hypothesis that the bluer and brighter clump (see Fig. 12c) is real.

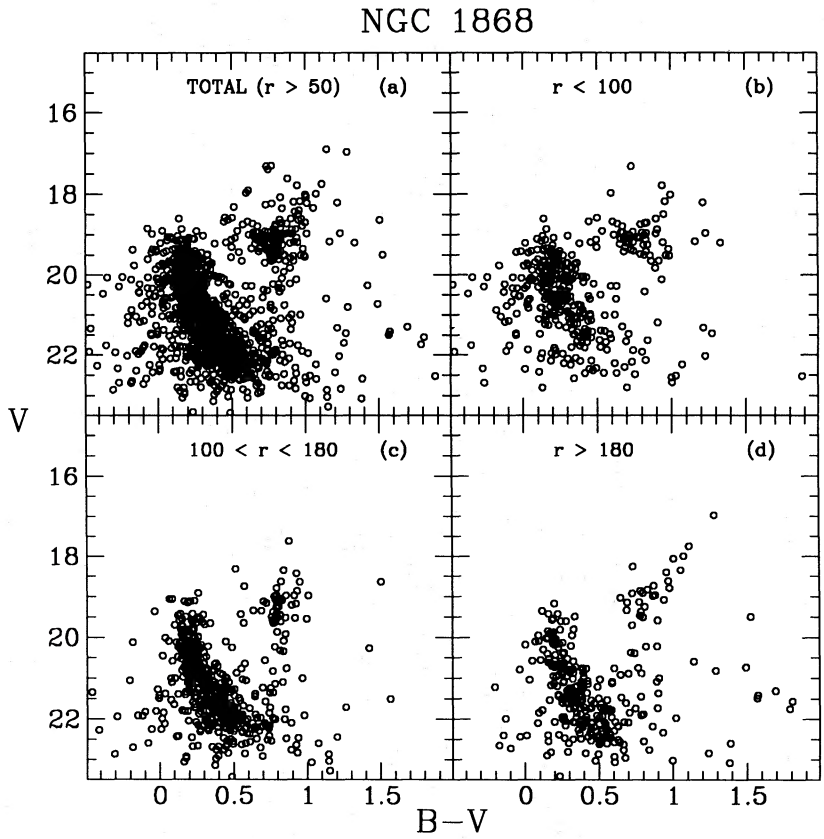

Figure 12. Radial CMDs for NGC 1868. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 11.

3.4 NGC 1987

3.4.1 General information

This cluster lies in a highly field-contaminated zone, very close to and south of the LMC bar. Since the cluster itself is poorly populated, the analysis of the integrated properties may be uncertain. NGC 1987 was classified as SWB type IV and 'old' by vdB81. EF85 gave $s = 35$, corresponding to an age $t \sim 6.5 \times 10^8$ yr. An upper limit for the age was given by AMMAII, through the AGB-tip luminosity method: $t \leq 2.5 \times 10^9$ yr. No previous CMDs are available in the literature.

Mould & Aaronson (1980, hereafter AMMAI), LE80 and FMB90 searched for C stars in NGC 1987, using IR bands, and identified two candidates (see Paper II).

3.4.2 Photometry and CMD structure

Four frames were reduced for this cluster, and the data for 1655 stars, shown in map form in Fig. 13, are reported in Table 9(a) (on microfiche MN271/1). The adopted cluster centre is situated in the reference frame (V, 15 min) at $X_c = 152$, $Y_c = 250$ pixel.

Since, as anticipated in the previous paragraph, the CMD of NGC 1987 is almost completely dominated by the field stars (see Fig. 14), we also obtained two BV frames with the ESO–NTT to get further information on the field contribution. Fig. 15 shows a map of this area. In the map the cluster lies beyond the left-hand edge, as only measurements of the right-hand portion of the NTT frame were possible, because

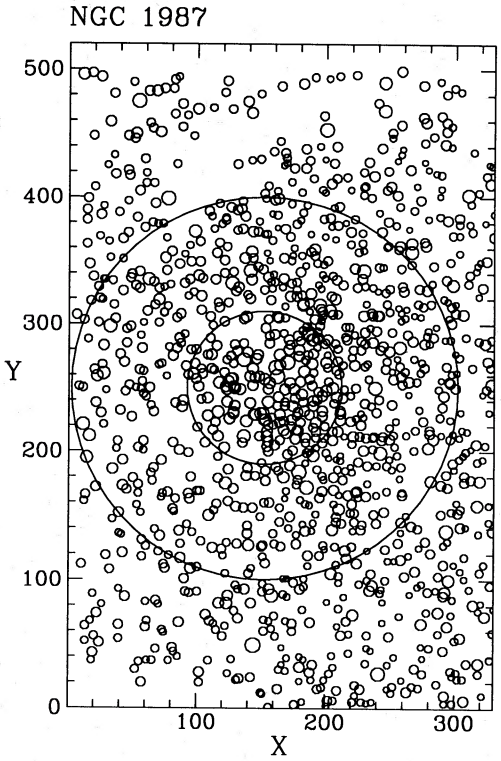

Figure 13. Computer map of measured stars in NGC 1987, listed in Table 9(a). Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles are plotted at radii of 60 and 150 pixel from the cluster centre, located at $X_c = 152$, $Y_c = 250$ pixel (see text).

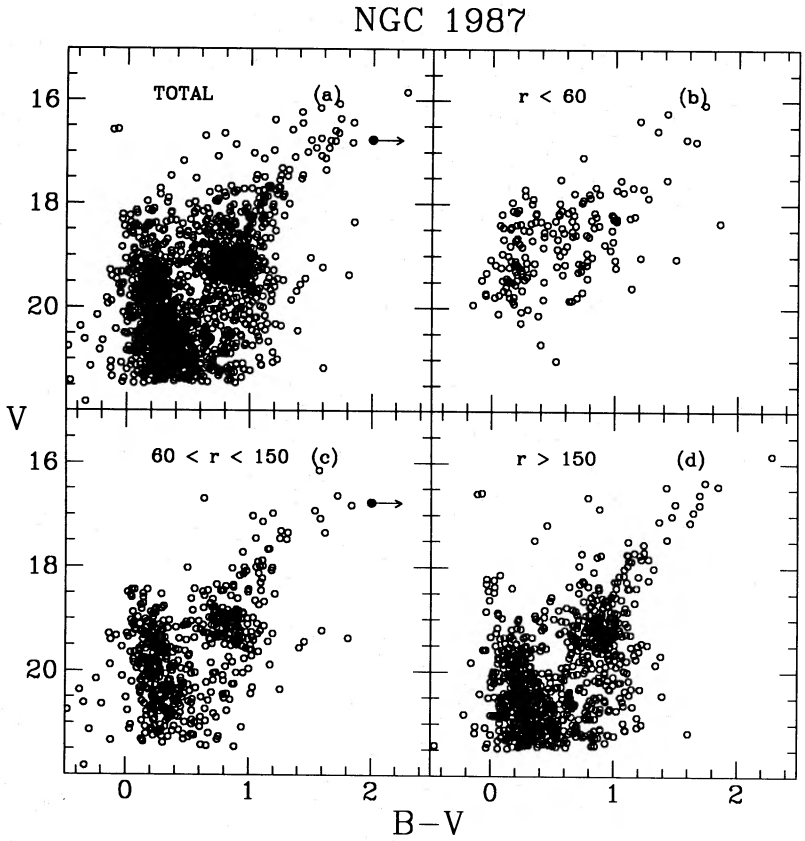

Figure 14. Radial CMDs for NGC 1987. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 13. The object indicated by the arrow is the star 873, whose actual colour is $B - V = 3.84$.

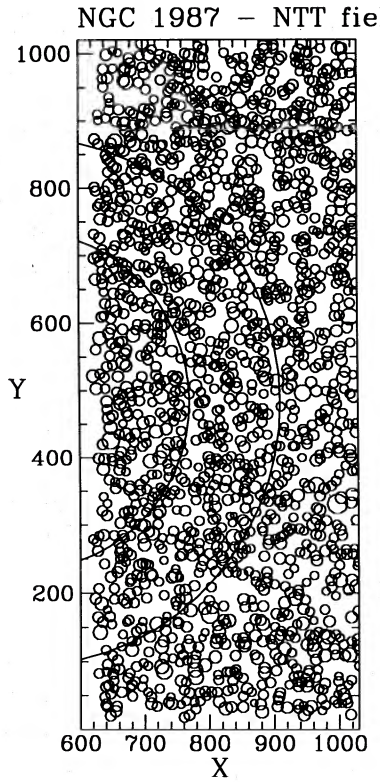

Figure 15. Computer map of measured stars in the NTT field for NGC 1987, listed in Table 9(b). The coordinates actually start at $X=600$, $Y=0$ pixel (scale = 0.44 arcsec pixel^{-1}), because no stars have been measured in the left-hand region of the frame (see text). The circles have radii of $r=250$ and 390 pixel, and are centred at $X_c=500$, $Y_c=450$ pixel.

of the presence of some very luminous and saturated stars which prevented any reliable photometry of the left-hand zone of the frame.

The four panels in Fig. 14 show, as usual, the CMDs obtained from the original frames, while Fig. 16 shows the CMDs obtained from the stars measured on the ESO–NTT frames, listed in Table 9(b) (on microfiche MN271/1).

Looking at the various CMDs, it is possible to see a highly dispersed MS, mainly because of photometric scatter (seeing conditions were bad), with a big RCl from which an extended RGB departs. Hence this cluster could be in principle one of the best candidates in which to study the RGB ph-t, but one has to be very careful before drawing any conclusion, as most of the RGB objects could well belong to the field population.

In particular, a closer inspection of the CMDs suggests that, as already noted for NGC 1756, there may be three different populations superimposed. In fact, there is undoubtedly a dominating field which is quite old, as supported by the detection of a very populated RCl without a similarly populated MS (see Fig. 16). It is then evident from Fig. 16 that in the field there is also a very young component which produces the plume extending along the bright MS and the few bright stars at intermediate colours. Finally, there is the cluster, which constitutes the bulk of the observed MS with terminating point at $V\sim 19$ and contributes almost negligibly to the RCl.

With the present data and within the described framework, it is hard to conclude that the RGB stars may be cluster members also because, as will be shown while discussing the old cluster NGC 2173, the number of RGB stars increases substantially as the population gets older. Since the field population is surely older than the cluster, it is natural to

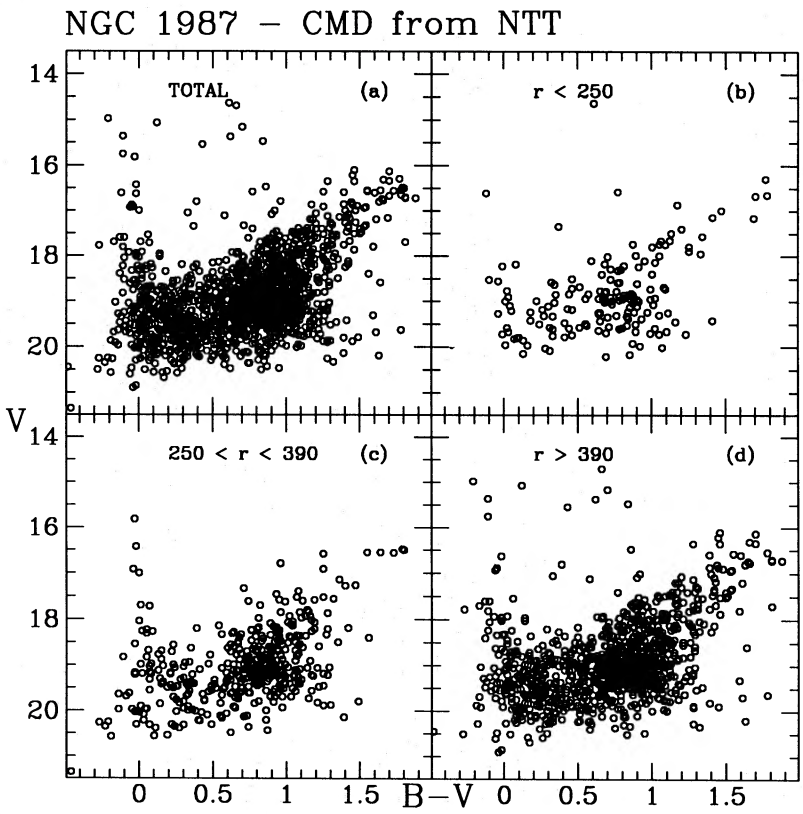

Figure 16. CMDs of measured stars in the NTT field of NGC 1987.

conclude that the vast majority of the RGB stars actually belong to the field. This means that it would be risky to consider this cluster as a reliable candidate for a test-study of the RGB ph-t.

3.5 NGC 2107

3.5.1 General information

This cluster lies in a strongly field-contaminated area, close to the south-eastern edge of the LMC bar. No *BV* photometry of individual stars was available for this cluster before the present study. It was classified by SWB as type IV, and as 'intermediate' by vdB81. EF85 gave $s = 32$, corresponding to an age $t \sim 3.5 \times 10^8$ yr. AMMAII, LE80 and FMB90 studied the late-type stellar content in the IR and identified 11 AGB candidates.

3.5.2 Photometry and CMD structure

Photometry was carried out by cutting off an inner circle centred at $X_c = 150$, $Y_c = 295$, with 50-pixel radius, on the reference frame (*V*, 9 min). CMDs for the 1303 stars measured, shown in Fig. 17 and listed in Table 10 (on microfiche MN271/1), are shown for the three annuli, as indicated, in Fig. 18.

Looking at the radial CMDs, it seems evident that the bright extended clump ranging in colour from $B-V \sim 0.4$ to $B-V \sim 1.2$ belong to the cluster. As in NGC 1756, this feature indicates a low age (a bit older than NGC 1756) for the cluster and the probable presence of

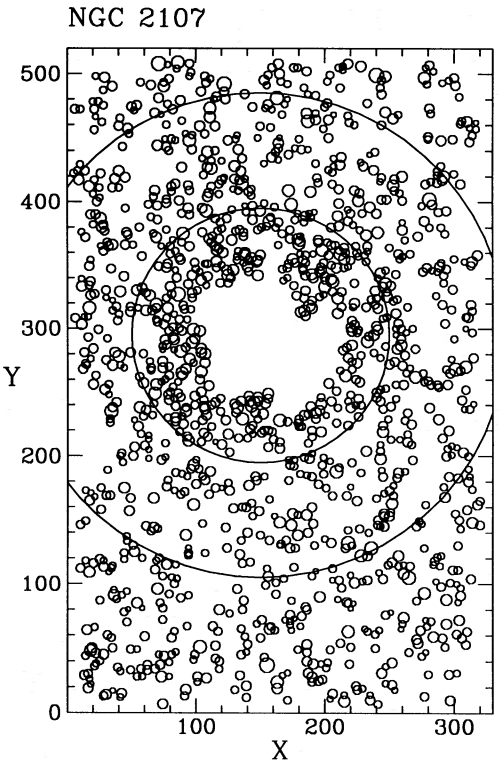

Figure 17. Computer map of measured stars in NGC 2107, listed in Table 10. Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 100 and 190 pixel from the cluster centre, located at $X_c = 150$, $Y_c = 295$ pixel (see text).

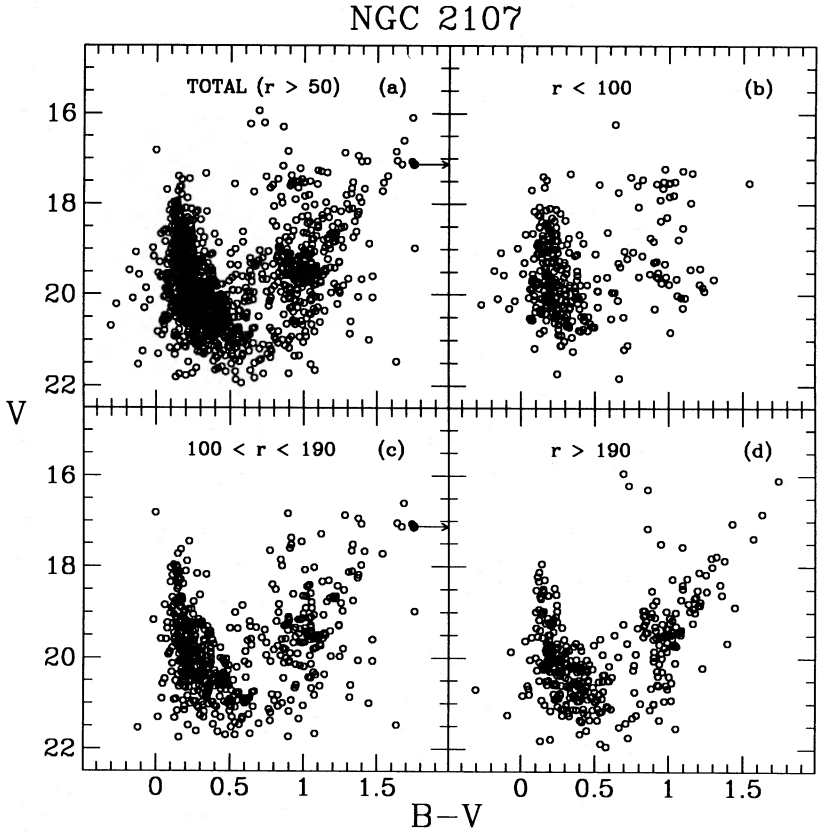

Figure 18. Radial CMDs for NGC 2107. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 17. The object indicated by the arrow is the star 1196, whose actual colour is $B-V = 3.52$.

some Cepheid variables. The little clump of stars located on the top of the MS, separated from it by a small gap (see panel b), may be caused by either optical blends or He-burning blue loop stars. The latter option seems less reasonable.

The red, faint clump belongs most probably to the field population (panels c and d), together with the well-populated RGB. Thus the field is mostly composed of intermediate-age stars, much older than the cluster population. At least part of the vertical sequence of stars crossing the CMDs in the various panels at $B-V\sim 0.8$ could also belong to the Galactic background. However, star counts from Ratnatunga & Bahcall (1985) yield very few stars (see Table 5).

3.6 NGC 2108

3.6.1 General information

NGC 2108 is located not far from NGC 2107, close to the LMC bar. It is a SWB type IV–V cluster (BDP86), not extensively studied so far. EF85 gave $s=36$, while vdB81 classified it as 'old'. AMMAIV examined the late-type stellar content in the IR, and a similar study was made by FMB90 (see Paper II). Apart from that by BDP86, no other age estimates exist in the literature, and no CMDs have ever previously been presented.

3.6.2 Photometry and CMD structure

Four frames were measured (see map in Fig. 19) to obtain the CMDs shown in Fig. 20. Table 11 (on microfiche MN271/1) reports the list of the measurements for the 789 stars in the catalogue.

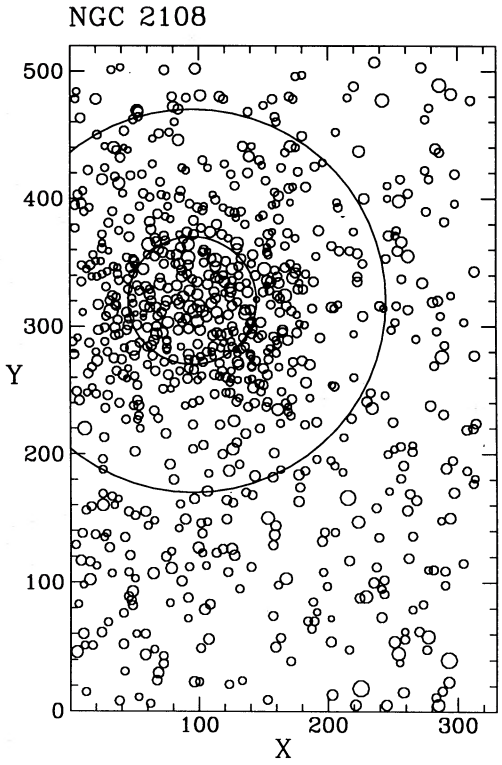

Figure 19. Computer map of measured stars in NGC 2108, listed in Table 11. Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 50 and 150 pixel from the cluster centre, located at $X_c=95$, $Y_c=320$ pixel (see text).

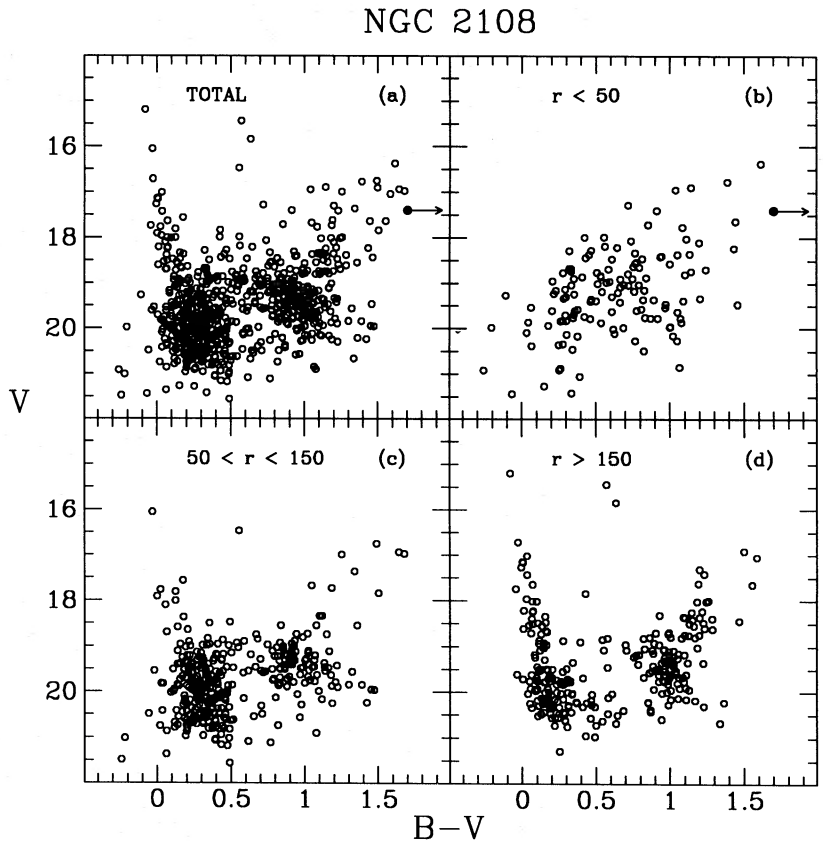

Figure 20. Radial CMDs for NGC 2108. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 19. The object indicated by the arrow is the star 433, whose actual colour is $B-V=2.70$.

From an inspection of the radial CMDs, it is evident that the narrow and bright plume of stars extending along the MS surely belongs to a young field population. In fact, it dominates outside $r > 150$ pixel, is marginally present in the annulus $50 < r < 150$ pixel and is absent where the cluster members outnumber the field objects.

The analysis of the RCl is difficult with the present data. Looking at panels (c) and (d) of Fig. 20, one could find some evidence favouring the existence of a slight difference between the old field, which dominates outside $r > 150$ pixel (with fainter TO and average clump luminosities), and the cluster (which still dominates in panel c). Unfortunately, as a result of the poor seeing conditions, the CMD of the inner regions does not yield significant information. A few red giants could well belong to the cluster, but it is hard to quantify their number.

3.7 NGC 2162

3.7.1 General information

NGC 2162 lies several degrees north-east of the LMC bar, in an apparently poorly populated zone of the field. SWB classified NGC 2162 in their V class, and EF85 assigned it $s = 39$. vdB81 considered it 'old'. Many studies of integrated cluster and individual star photometry are available for this object. Schommer, Olszewski & Aaronson (1984) produced a CMD and AMMAII studied AGB stars in the IR bands, identifying two candidates, which give an upper limit to the age of $t \leq 10 \times 10^9$ yr (see Table 4). The same authors, from the integrated $B - V$ colour, derived $t \sim 2 \times 10^9$ yr.

3.7.2 Photometry and CMD structure

Four frames, observed with good seeing conditions, were originally available. The whole catalogue obtained from their reduction consists of 851 stars, listed in Table 12(a) (on microfiche MN271/1) and plotted in the map (Fig. 21). The adopted cluster centre is located at $X_c = 90$, $Y_c = 310$ pixel.

The analysis of the radial CMDs presented in Fig. 22 immediately reveals that this could be an important object to study for our purpose, as the CMD of this cluster shows a prominent red giant branch which seems to be populated by cluster members. In fact, the MS is well defined and narrow, terminating at $V = 19.4$, the RCl is little dispersed, and the RGB is quite well developed.

Concerning the field contamination, it is not obvious what conclusions, if any at all, to draw from these data. Looking at the four panels in Fig. 22, one can note various features.

(i) The MS termination point becomes fainter and fainter with increasing distance from the cluster centre. This may be due to the fact that the underlying MC field is slightly older than the cluster, or the brightest stars in the MS are simply optical blends whose frequency decreases with decreasing degree of crowding (i.e. for larger values of r).

(ii) There is a 'chain' of stars located to the red of the MS (at $B - V \sim 0.8$) which seem to connect the lower MS with the RCl. These stars closely resemble the subgiant and red giant branches of a very old population (as in the Galactic globulars).

(iii) The average brightness of the RCl seems to vary radially, being slightly fainter in the inner annuli and increasing in brightness in the outer one.

It is extremely important to assess the contribution of true members to the RGB present in this cluster. Actually, if this feature is dominated by the cluster population, we could derive a first constraint on the typical age at which the RGB ph-t occurs. We have therefore secured two frames with ESO–NTT of the LMC field on to which this cluster happens to project. Fig. 23 shows a map of the observed region and Fig. 24 presents the corresponding set of radial CMDs. The corresponding data are reported in Table 12(b) (on microfiche MN271/1). Note that, since 300 pixel with NTT correspond to 391 pixel in our previous photometry, the new annuli have larger radii than those considered in Fig. 23. However, assuming the same centre for the cluster (here $X_c = 450$, $Y_c = 75$ pixel), it is easy to see from the panels shown in Fig. 24 that the stellar population in the innermost annulus (where the cluster dominates) is remarkably different from the one present in the outermost region (where field stars are likely to outnumber the cluster members). Judging from Fig. 24, the field seems to contain a very old component, displaying a faint MS termination point and populated subgiant and giant branches, with an RCl slightly brighter than the one belonging to the cluster. This confirms what has already been noticed for the CMDs in Fig. 22, and we are led to suggest that NGC 2162 has already experienced the RGB ph-t.

3.8 NGC 2173

3.8.1 General information

This is undoubtedly the oldest cluster of our sample, located about 3° from the southern edge of the bar. It was classified as SWB type VI in the original work of SWB, while BDP86 reclassified it as type V–VI, concluding that its age is $t \simeq (6.5 \pm 0.7) \times 10^9$ yr. EF85 determined $s = 42$, and vdB81 put it in his 'old' sample. The agreement between the various authors is thus quite good for NGC 2173.

A CMD was constructed by Mould, Da Costa & Wieland (1986), and other studies of the late-type stellar content exist (Frogel & Cohen 1982; AMMAI; Mould & Aaronson 1982, hereafter AMMAIII, and others). There are also age estimates from AMMAI and AMMAIII, via the AGB-tip method, according to which $5 < t < 10$ Gyr.

3.8.2 Photometry and CMD structure

Photometry of NGC 2173 was carried out only on two frames, of long exposure. Seeing conditions were poor, similar to those of NGC 1987. It was therefore impossible to accomplish sufficiently reliable photometry in the central regions. As a matter of fact, we excluded a circular area (with $r < 40$ pixel) centred at $X_c = 135$, $Y_c = 270$ pixel, and only 12 stars were separately measured inside it to obtain identifications with IR data (see Paper II). 616 stars were measured in total (see Table 13(a), on microfiche MN271/1), and the map is presented in Fig. 25.

The CMDs of the outer zones (see Fig. 26) show a MS that is sufficiently well traced, although increasingly dispersed going to fainter and fainter magnitudes. The RCl is clearly defined and the RGB is well populated and traceable up to the bright tip. As in NGC 2162, there is some indication for the existence of a vertical sequence (at $B - V \sim 0.8$) connecting the MS and the RCl, worthy of further study.

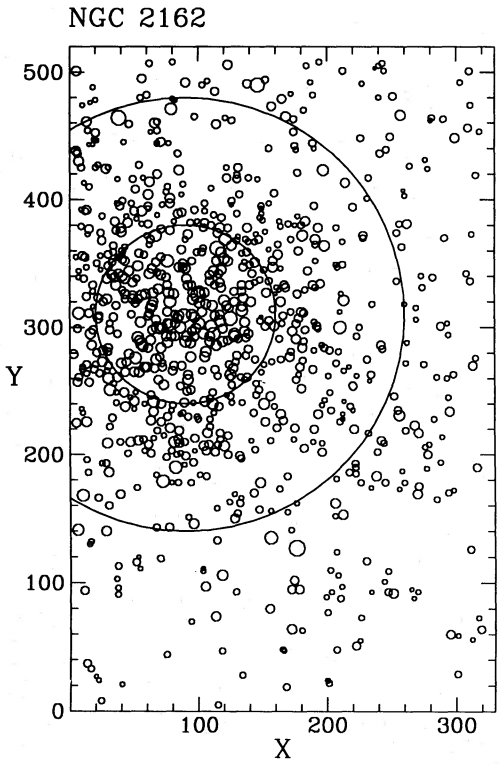

Figure 21. Computer map of measured stars in NGC 2162, listed in Table 12(a). Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 70 and 170 pixel from the cluster centre, located at $X_c = 90$, $Y_c = 310$ pixel (see text).

Also for this cluster we obtained two *BV* ESO–NTT frames. The map of the measured stars and the corresponding radial CMDs are presented in Figs 27 and 28, respectively, and the measurements are listed in Table 13(b) on the microfiche (MN271/1). Only the upper halves of the frames were measured, because of the instability of the background in the lower halves (the performance of EMMI had still not been fully checked). By examining the CMD we cannot identify with precision the TO location, because the CMD is not deep enough and the MS is too spread out in $B-V$. It seems that there is an old population superposed on an intermediate-age one, as indicated by the presence of a subgiant branch starting at $B-V \sim 0.6$. A sort of 'stubby' red horizontal branch is also visible. Anyway, because of the insufficient quality of the field data, we cannot draw any firm conclusion about the stellar content of the field.

3.9 NGC 2190

3.9.1 General information

NGC 2190 is one of the most remote clusters in our sample, with respect to its position in the LMC. This cluster was not included in any of the lists yielding SWB types or EF85's *s* parameters. The first studies carried out on NGC 2190 were devoted to studying some carbon stars, using mainly IR photometry (AMMAI; AMMAIII; Westerlund et al. 1991). The integrated colours (vdB81), however, put this object among those having SWB type IV–V, thus making it useful to our purpose.

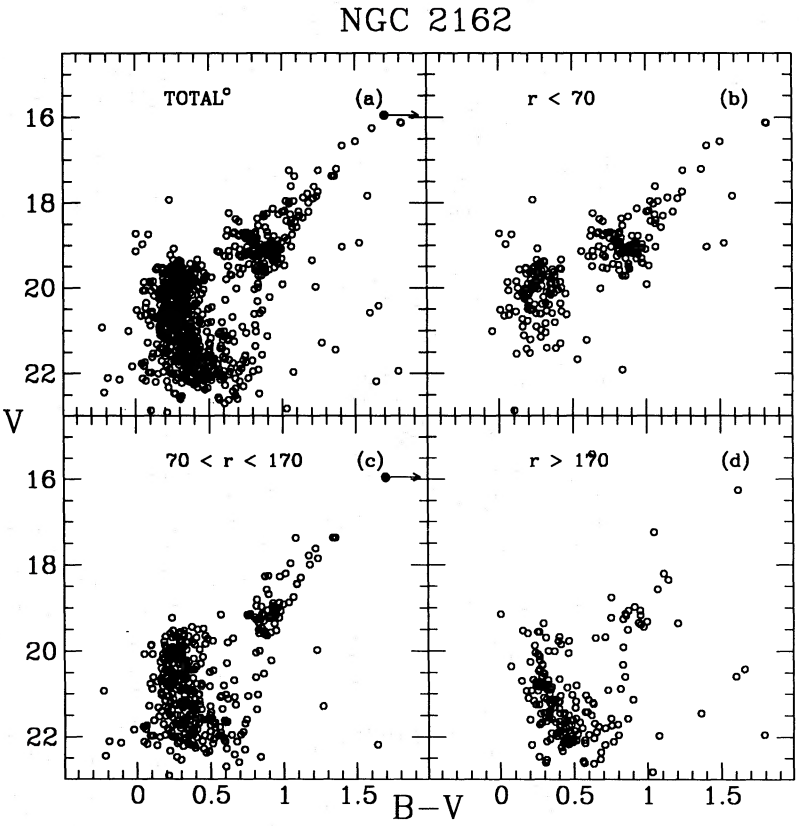

Figure 22. Radial CMDs for NGC 2162. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 21. The object indicated by the arrow is the star 634, whose actual colour is $B-V = 3.61$.

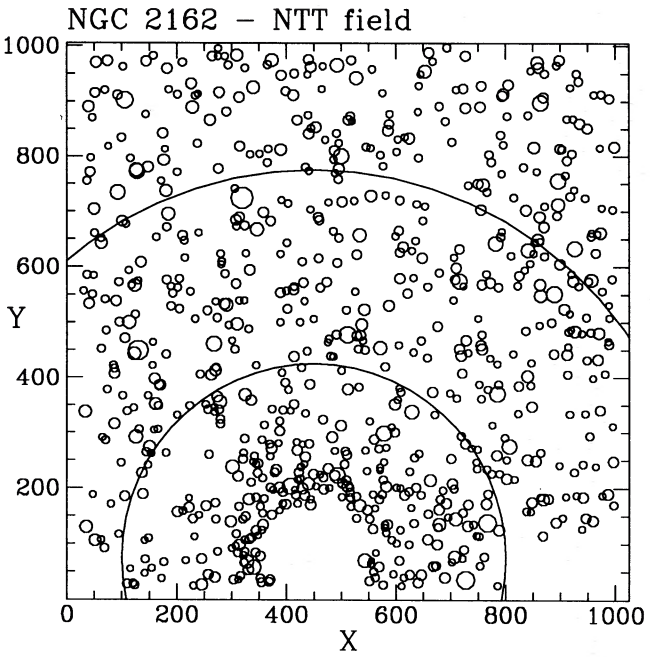

Figure 23. Computer map of measured stars in the NTT field for NGC 2162, listed in Table 12(b). Circles have centres at $X_c = 450$, $Y_c = 75$ pixel, with radii $r = 350$ and 700 pixel (scale = 0.44 arcsec pixel^{-1}).

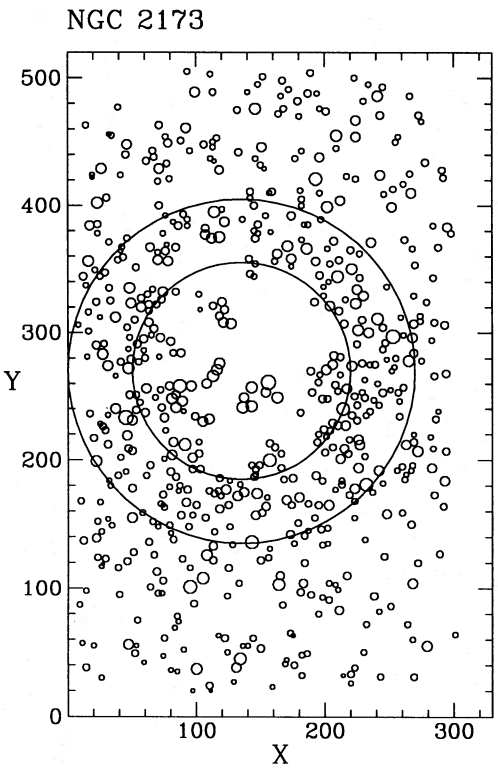

Figure 25. Computer map of measured stars in NGC 2173, listed in Table 13(a). Coordinates are in pixels (0.47 arcsec pixel^{-1}). Solid circles have radii of 85 and 135 pixel from the cluster centre, located at $X_c = 135$, $Y_c = 270$ pixel (see text).

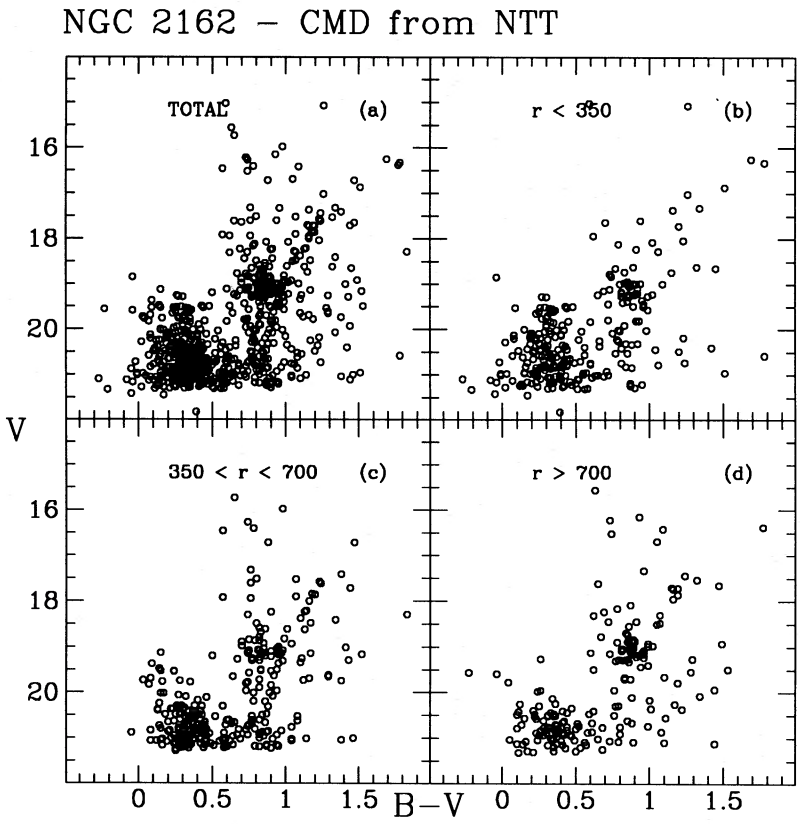

Figure 24. CMDs of measured stars in the NTT field of NGC 2162.

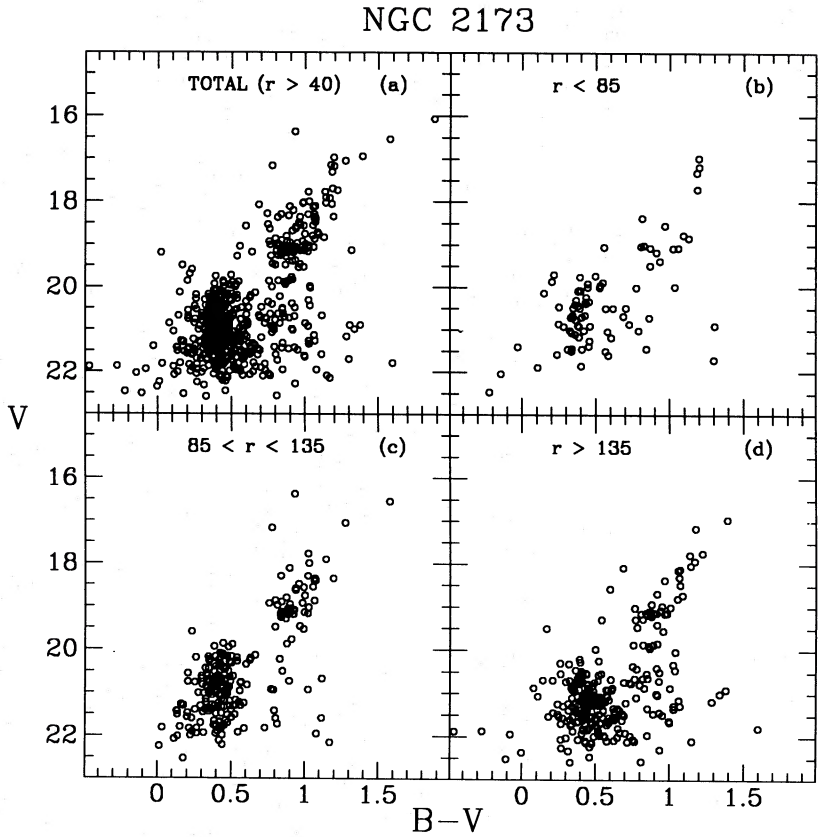

Figure 26. Radial CMDs for NGC 2173. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 25.

A CMD for this cluster was first presented by Schommer et al. (1984). By applying an MS-fitting method, making use of models by Vandenberg & Bridges (1984), of the Yale isochrones (Ciardullo & Demarque 1977), and of the data for Galactic open clusters, the above authors obtained an estimate for the distance modulus to the LMC of $(m-M)_0 = 18.2 \pm 0.2$ (see also the discussion of NGC 2162). Chiosi & Pigatto (1986) analysed this same CMD (the individual data are still unpublished) on the basis of stellar models that incorporate convective overshooting, and found $(m-M)_0 = 18.4$.

3.9.2 Photometry and CMD structure

The cluster was measured on two sets of frames, the first centred on the cluster, and the second having the cluster offset to the right. This produced the map presented in Fig. 29, which covers a field larger than the others obtained with the 2.2-m telescope. The coordinates of the adopted centre are $X_c = 152$, $Y_c = 310$ pixel.

The photometry consists of 971 stars on six frames (listed in Table 14 on microfiche MN271/1), and the resulting CMDs are reported in Fig. 30. As can be seen, the CMD of the inner annulus presents a well-developed RGB, perhaps absent in the outer annuli. This may indicate that the cluster is small and slightly younger than the field. This second conclusion is supported by the evidence that the TO of the outer zone is a little fainter than that of the cluster, while the clumps behave in the opposite way. If this is confirmed, one would expect to detect more and more RGB stars when increasing the field population sampled.

As a preliminary step, we may thus conclude that NGC 2190 is a good candidate to detect the RGB ph-t (see also work on NGC 2209 and 2162), having a turn-off magnitude comparable with those of NGC 2209 and 2162, and a well-developed RGB, which is not prominent in NGC 2209 (see below).

3.10 NGC 2209

3.10.1 General information

This cluster is located slightly further south than NGC 2173. The first SWB classification assigned class III for this cluster, but a following re-examination made by BDP86 gave type III–IV. EF85 found $s = 35$. vdB81 classified it as 'old', and this is somehow in contradiction with the early SWB classification.

NGC 2209 is a very well-studied cluster, especially for its content of late-type stars (AMMAI–IV; Persson et al. 1983; LE80, and others). Various CMDs have been obtained in the past (Gascoigne 1966; Walker 1971; Gascoigne et al. 1976; Hesser, Hartwick & Ugarte 1976; Hardy, Melnick & Reheault 1980; Hodge 1983; Flower 1984; Dottori, Melnick & Bica 1987). All of them show essentially the same overall CMD structure.

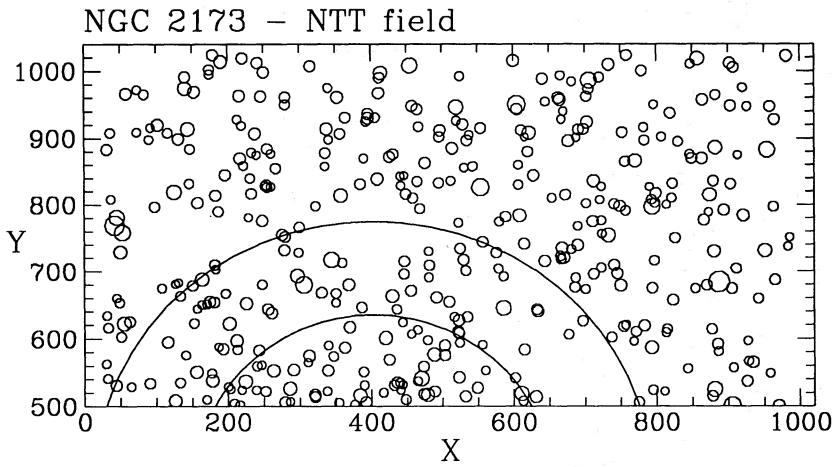

Figure 27. Computer map of measured stars in the NTT field for NGC 2173, listed in Table 13(b). The circles have their centres at $X_c = 403$, $Y_c = 385$ pixel, with radii $r = 250$ and 390 pixel (scale = 0.44 arcsec pixel^{-1}). The coordinates start at $Y = 500$ because no stars were measured in the bottom part of the frame (see text).

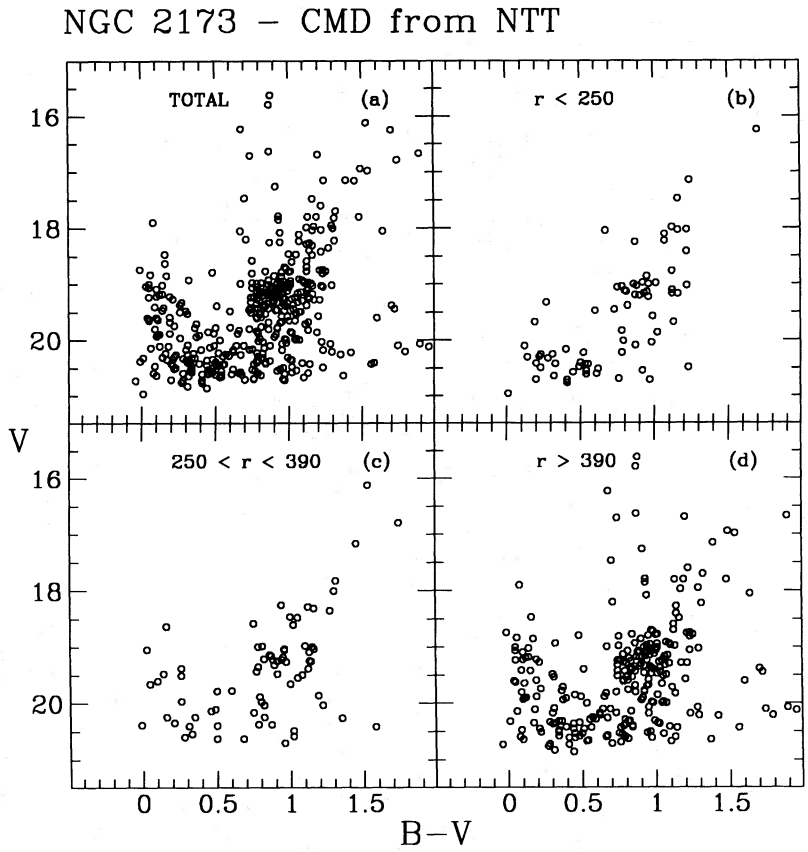

Figure 28. CMDs of measured stars in the NTT field of NGC 2173.

As can be seen from Table 4, all the available age determinations are in fair agreement, covering a range from $t \sim 0.7 \times 10^9$ to $\sim 1.2 \times 10^9$ yr.

3.10.2 Photometry and CMD structure

Since the cluster density is low and the observing seeing conditions were sufficiently good, we were able to measure a sizeable population of stars in the very central areas also, but the crowding conditions prevented us from obtaining a central CMD that is useful for our analysis.

Six frames were measured, to compile a catalogue of 1174 stars, of which 134 are in the central zone ($X_c = 200$, $Y_c = 280$, $r < 50$ pixel) and 1040 are in the outer rings, as shown in the map presented in Fig. 31, and in the list reported in Table 15 (on microfiche MN271/1). As already

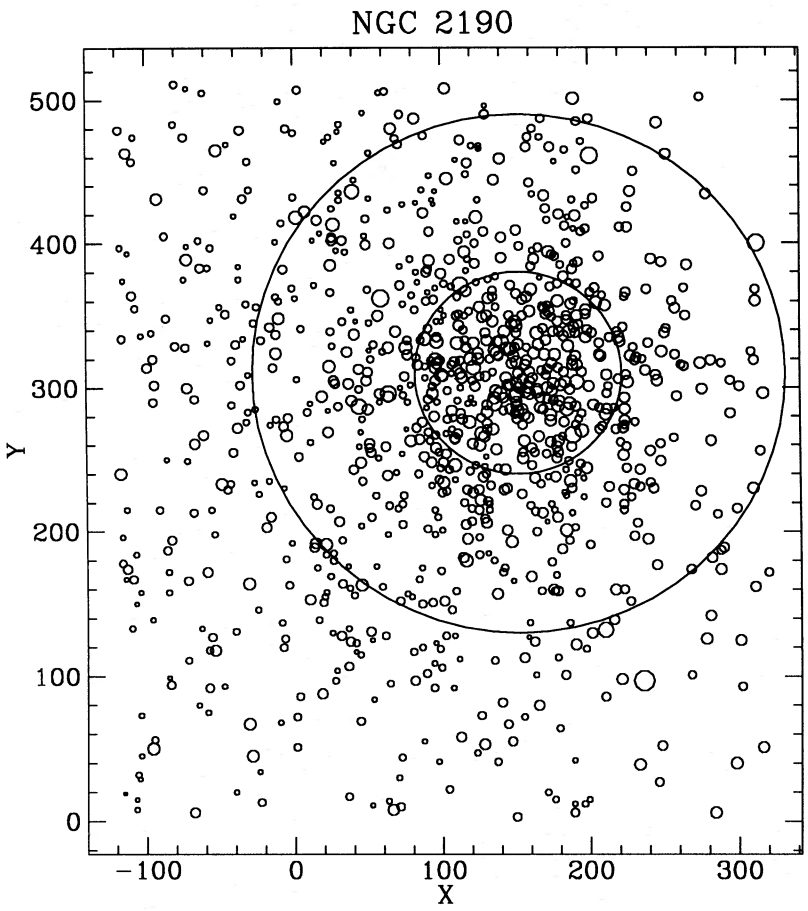

Figure 29. Computer map of measured stars in NGC 2190, listed in Table 14. The coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 70 and 180 pixel from the cluster centre, located at $X_c = 152$, $Y_c = 310$ pixel (see text).

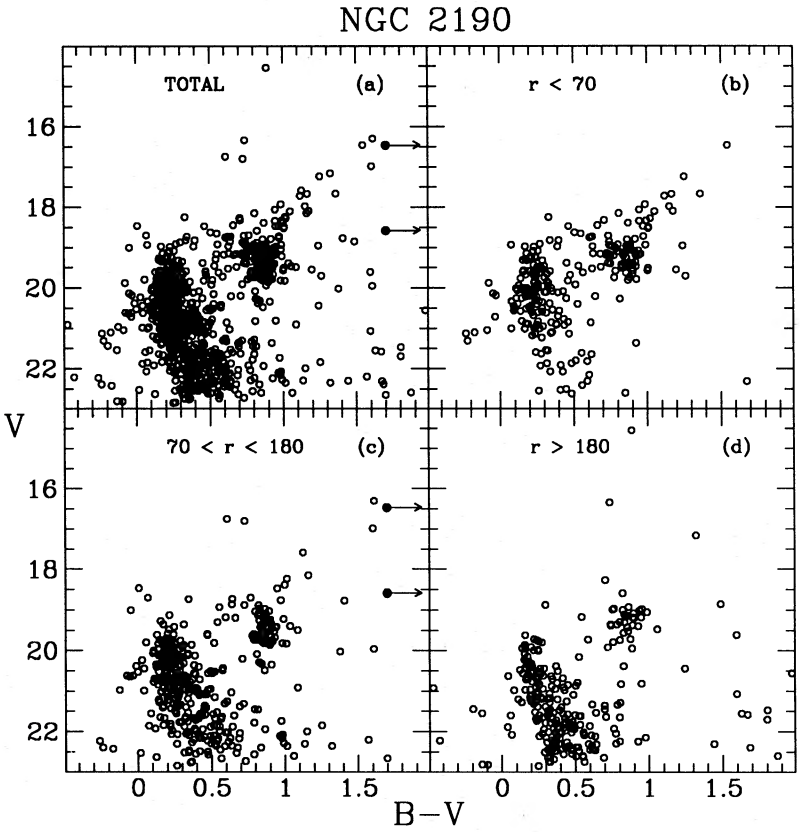

Figure 30. Radial CMDs for NGC 2190. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 29. The objects indicated by the arrows are the stars 215 ($B - V = 3.27$) and 921 ($B - V = 2.62$).

mentioned, and as can be seen from Fig. 32, even if the seeing conditions were good, the photometry carried out in the central circle yields a scattered CMD. The data for the outer rings are much better; the MS is well-defined, narrow, and almost overlapping that derived for NGC 2162. The RCl is small and compact. No RGB is visible, except for a few stars on the top of the RCl, but, if one considers only the CMD obtained by cutting the left-hand side of the frames (where the field contribution dominates), the RGB disappears. Because of the similarity between the MSs of NGC 2209 and NGC 2162, it seems natural to conclude that the two clusters have similar ages. On the other hand, it is remarkable that, while NGC 2162 has a very evident and populated RGB, in NGC 2209 the RGB seems to be almost completely lacking. If confirmed, this evidence would be a direct way of bracketing the age (and, in turn, the mass) at which the RGB ph-t actually takes place.

3.11 NGC 2249

3.11.1 General information

This cluster is located a few degrees to the east of the bar, and appears to be very small. NGC 2249 is a poorly studied cluster, and no SWB classification is available. EF85 gave $s = 34$; vdB81 classified it as 'old'. A first uncalibrated CMD for this cluster was published by Hesser et al. (1976). Jones (1987) carried out BV CCD photometry and, adopting two different distance moduli and three different metallicities, estimated the cluster age (see Table 4).

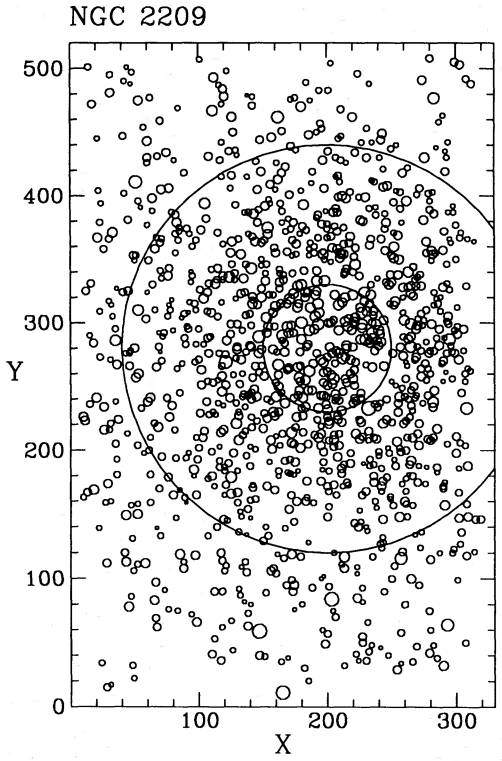

Figure 31. Computer map of measured stars in NGC 2209, listed in Table 15. Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 50 and 160 pixel^{-1} from the cluster centre, located at $X_c = 200$, $Y_c = 280$ pixel (see text).

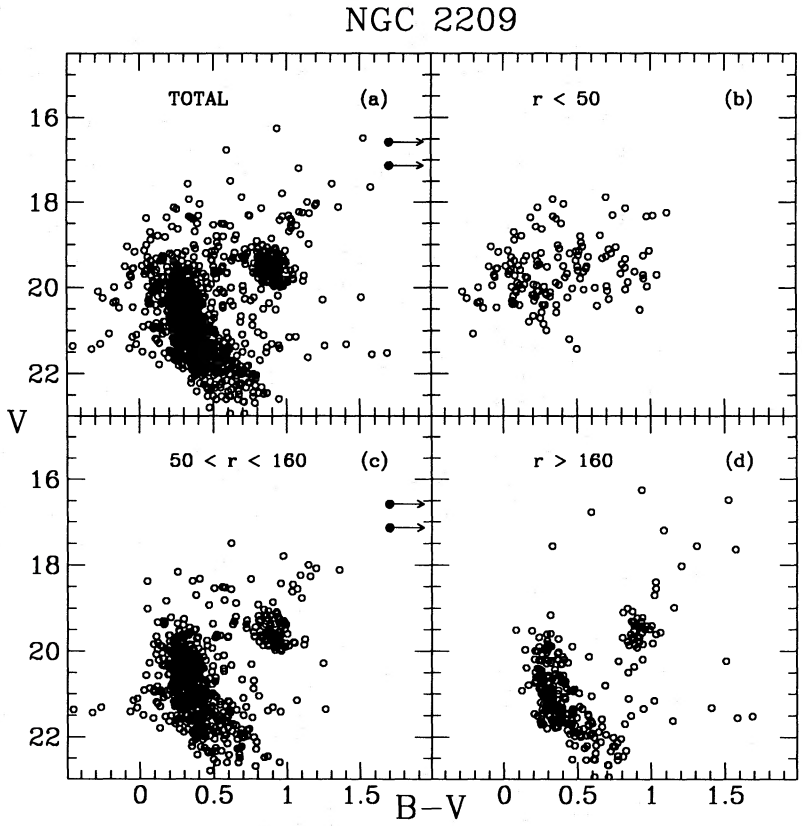

Figure 32. Radial CMDs for NGC 2209. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 31. The objects indicated by the arrows are the stars 423 ($B - V = 2.39$) and 572 ($B - V = 3.17$).

3.11.2 Photometry and CMD structure

Only two frames were measured for this cluster; the exposure was long so that no central photometry was feasible. In fact, as can be seen from the map displayed in Fig. 33, and from the list of measured stars in Table 16 (on microfiche MN271/1), the catalogue consists of 391 stars, all external to a circle centred at $X_c = 175$, $Y_c = 280$ pixel, 60-pixel radius. Looking at the map, it seems that the field contamination is not significant, but the small dimensions and the low apparent density of the cluster, coupled with the lack of the entire central zone, do not allow firm conclusions from the analysis of the CMDs displayed in Fig. 34. Anyway, the MS appears to be well defined and narrow, as does the clump, and becomes more sparse with distance from the cluster centre. There is no sign of the presence of an RGB, but the sample is too poor to be sure that there are not problems connected to the small-number statistics. The inner CMD shows a clump extended horizontally in the direction of the MS. This could be caused by optical blends, as discussed for other clusters. The determination of CMD observables is in good agreement with the values estimated by Jones (1987) (see Section 4). Finally, as can be seen from panels (c) and (d), there is a weak indication of the existence of a sort of subgiant branch (faint and red) for the old MC field.

4 GLOBAL ANALYSIS AND DISCUSSION

The values obtained for the CMD observables in each cluster are reported in Tables 17(a) and (b), and will be used in the discussion in the following subsections.

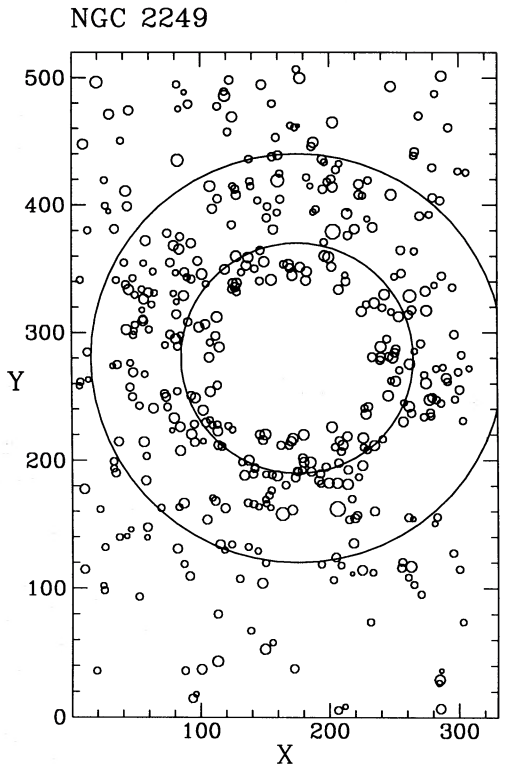

Figure 33. Computer map of measured stars in NGC 2249, listed in Table 16. Coordinates are in pixels (0.36 arcsec pixel^{-1}). Solid circles have radii of 90 and 160 pixel from the cluster centre, located at $X_c = 175$, $Y_c = 280$ pixel (see text).

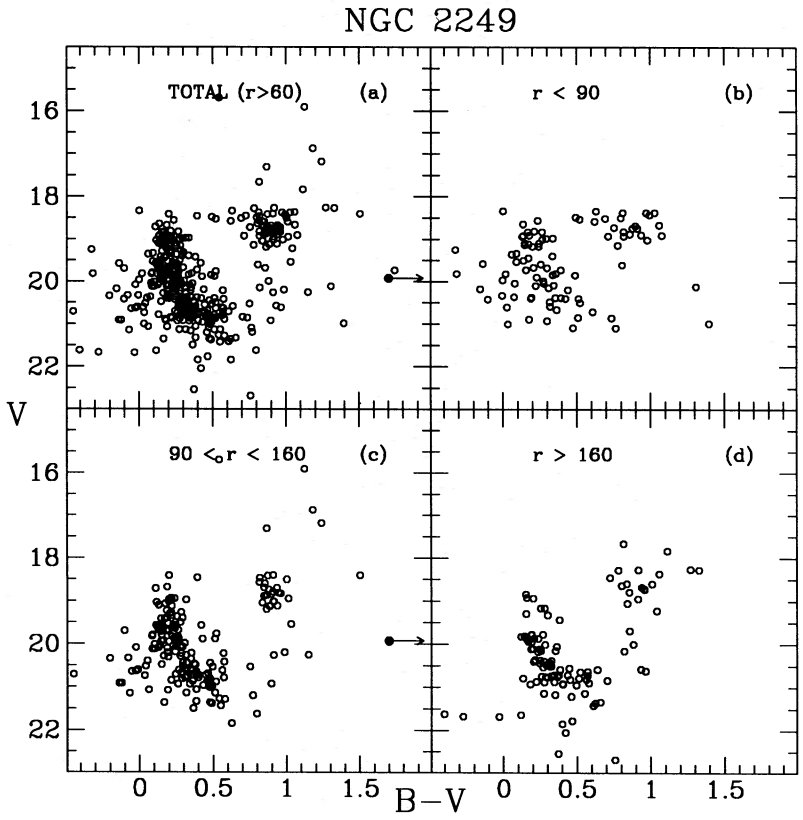

Figure 34. Radial CMDs for NGC 2249. The radii reported in panels (b), (c) and (d) are in pixels and refer to the annuli drawn in Fig. 33. The object indicated by the arrow is the star 381 ($B - V = 2.21$).

Table 17. (a) Mean loci from CMDs.

Cluster	V_{TO}	$(B-V)_{TO}$	$<V_{Cl}>$	$<(B-V)_{Cl}>$	$V_{Cl,m}$	$(B-V)_{Cl,m}$	ΔV_{Cl}	$\Delta(B-V)_{Cl}$
NGC 1756	17.6	0.02	17.3	0.90	18.0	1.25	16.5–18.0	0.45–1.40
NGC 1831	18.3	0.10	18.5	0.90	19.0	0.95	18.2–19.0	0.65–1.00
NGC 1868	19.3	0.15	19.3	0.75	19.7	0.85	18.8–19.7	0.65–0.85
NGC 1987	18.8	0.18	19.2	0.85	19.5	0.90	18.7–19.5	0.75–0.95
NGC 2107	18.0	0.15	17.5	1.00	18.8	1.05	17.0–18.8	0.50–1.20
NGC 2108	19.1	0.20	19.3	0.90	19.8	0.87	18.8–19.8	0.80–1.10
NGC 2162	19.6	0.25	19.2	0.87	19.4	0.90	18.8–19.4	0.80–1.00
NGC 2173	20.0	0.40	19.1	0.87	19.3	0.87	18.7–19.3	0.80–0.95
NGC 2190	19.5	0.20	19.5	0.86	19.8	0.92	18.7–19.8	0.80–0.95
NGC 2209	19.5	0.25	19.7	0.88	20.0	0.95	19.2–20.0	0.80–1.00
NGC 2249	18.9	0.18	18.8	0.90	19.3	0.87	18.3–19.3	0.80–1.00

Table 17. (b) Mean loci of field CMDs.

Cluster	V_{TO}	$(B-V)_{TO}$	$<V_{Cl}>$	$<(B-V)_{Cl}>$	ΔV_{Cl}	$\Delta(B-V)_{Cl}$	Notes
NGC 1756	16.4	0.05					young
	19.5	0.15	19.3	0.95	18.9–19.7	0.80–1.10	inter.–old
NGC 1831	18.8	0.15	18.8	0.85	18.2–19.3	0.80–1.00	sim.to cluster
	19.0	0.10	19.0	0.9	18.7–19.3	0.80–1.00	NTT field
NGC 1868	19.7	0.17	19.2	0.80	18.7–19.6	0.75–0.90	sim.to cluster
NGC 1987	19.5	0.20	19.3	0.90	18.9–19.6	0.80–1.05	
	15.0	-0.20					NTT field-very young
NGC 2107	19.8	0.25	19.4	0.95	19.0–19.8	0.80–1.10	
NGC 2108	16.7	-0.03					young
	19.5	0.15	19.5	0.97	19.0–20.0	0.85–1.15	interm.-old
NGC 2162	20.0	0.25	19.3	0.90	19.0–19.5	0.80–1.00	
	20.6	0.35	19.2	0.90	18.8–19.4	0.75–1.05	NTT field
NGC 2173	20.4	0.40	19.1	0.90	19.0–19.2	0.8–1.0	HB
	19.0	0.05	19.1	0.90	18.7–19.7	0.75–1.15	NTT field-interm.
NGC 2190	19.7	0.15	19.3	0.85	18.9–19.5	0.80–1.00	
NGC 2209	19.8	0.30	19.4	0.92	19.2–19.9	0.85–1.00	
NGC 2249	19.7	0.18	18.6	0.90	18.2–19.0	0.75–1.05	poorly populated

4.1 The main-sequence band and the helium-burning clump

Fig. 35 shows the colour–magnitude diagram resulting from the superposition of all the clusters in our sample. The composite diagram appears to be mostly populated in the two well-known regions where nuclear burning takes place, i.e. the H-burning band and the He-burning clump.

To carry out quantitative comparisons with the theoretical models and to draw some useful conclusions, we have drawn in Fig. 35 the locations of the theoretical H-burning and He-burning zones as predicted by the computations presented by Alongi et al. (1993), with $Z=0.008$ and $Y=0.25$, and adopting $(m-M)_0=18.6$ for the distance modulus and $E(B-V)=0.1$ for the colour excess (see Westerlund 1990 for a review).

For model stars more massive than 1.1 $M_\odot$, the termination for the MS band has been taken to be represented by the model attaining the maximum luminosity after core hydrogen exhaustion. This choice has been motivated by the fact that after this point the evolution proceeds on a thermal time-scale, due to the occurrence of a thermal instability in the stellar envelope (Renzini et al. 1992). In this respect, it is worth noting that the V magnitude may keep brightening beyond the top luminosity model, simply because the bolometric correction gets smaller as $B-V$ increases. Nevertheless, the path between the top luminosity and the top V magnitude is covered on a thermal (rather than nuclear) time-scale, and few stars are expected to populate this region.

For model stars less massive than 1.1 $M_\odot$, the termination of the MS has been taken to be represented by the hottest model during the core H-burning phase, and this explains why the MS band becomes narrow at the faint end.

Concerning the core He-burning phase, as is well known, the models during this stage describe a loop in the Hertzsprung–Russell (HR) diagram, which becomes very narrow in $B-V$ for masses close to and smaller than $M_{\rm HeF}$. We indicate with filled circles in Fig. 35 the average location of the models during the core He-burning phase for stars with masses smaller than $M_{\rm HeF}$. For models more massive than $M_{\rm HeF}$, we have taken the core He-burning band to be confined between the hottest model and the minimum-luminosity model, during this evolutionary phase.

The conversion from the theoretical to the observational plane has been performed using the solar-metallicity models of Buser & Kurucz (1978, 1992), and applying an offset of 0.1 mag to the bolometric correction in order to be consistent with the empirical results obtained by Code et al. (1976) (cf. Buser & Kurucz 1978).

In Fig. 35, the solid lines refer to the models computed assuming classical input physics, while the dotted lines refer to the models with convective overshooting.

Turning now to the comparison between data and theo-

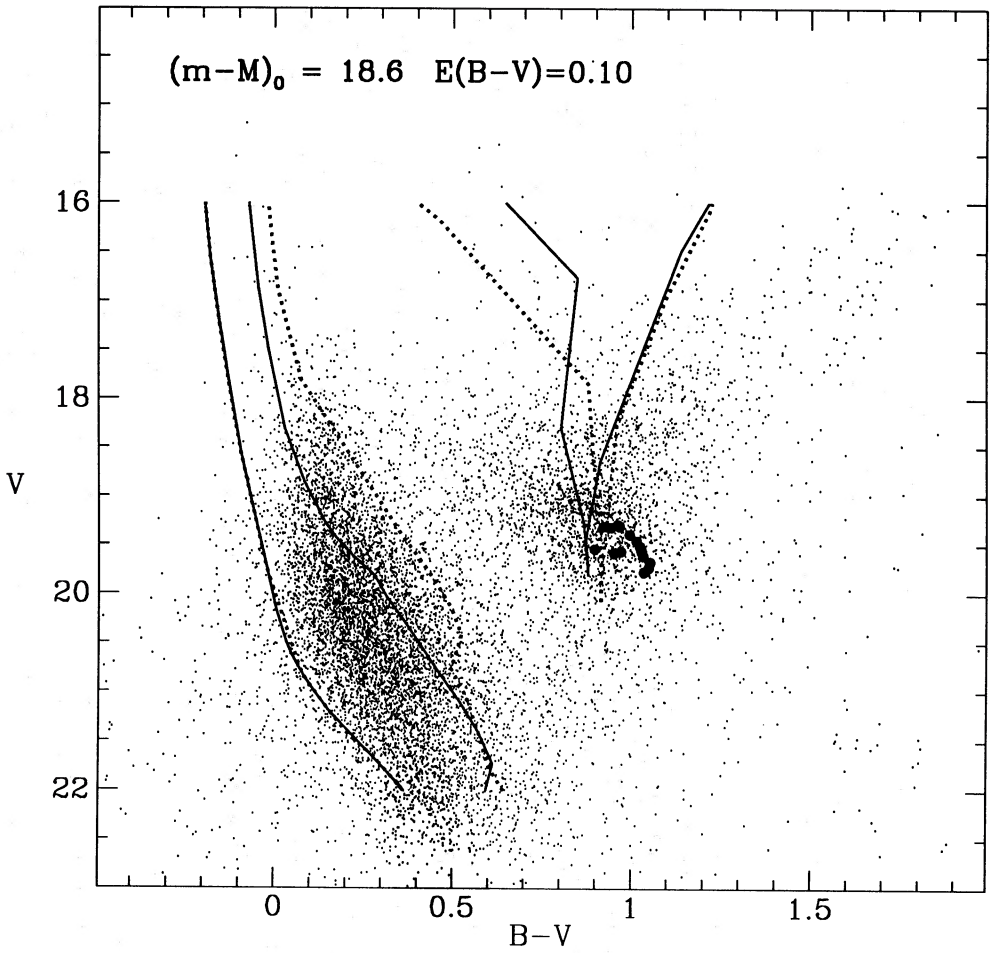

Figure 35. CMD of all the stars measured in the sample of 11 LMC clusters. For comparison, we have superimposed the H-burning band (on the left) and the He-burning zone (on the right) as predicted by the models computed by Alongi et al. (1993). Solid lines refer to 'classical' modes; dotted lines refer to models with 'overshooting'. Solid circles indicate the locus of the central He-burning stage in low-mass stars ($M_i < M_{HeF}$).

retical loci defined above, one can schematically conclude the following.

(i) Taking into account that depth effects (~ 0.1–0.2 mag in the LMC) might introduce a spread in the relative magnitudes from cluster to cluster, there is a substantial agreement in luminosity.

(ii) Where the colours are concerned, the agreement is worse. In fact, the theoretical MS band appears to be too blue with respect to the data, the separation between the H-burning and the He-burning bands is smaller than predicted, and the stars in the core He-burning zone have highly spread out $B-V$ colours.

Photometric errors and blending effects are partially responsible, for instance, for the colour spread and for the existence of stars within the gap, but they can hardly account for the whole discrepancy. Various paths could be explored to explain these discrepancies, but none of them seems to be totally satisfactory at the moment.

First, the adoption of a smaller value for the distance modulus may help in reducing the inconsistency concerning the location of the H-burning band, but then the agreement between the expected luminosity for He-burning stars and the actual location of the Red Clump would worsen. For instance, the adoption of a distance modulus as small as 18.3 (see Westerlund 1990 for a review) leads to a reasonable agreement of the theoretical MS with the data, but the observed RCl would be definitely too faint with respect to the models.

Secondly, our data may still be affected by a residual colour equation which deforms the observed CMD loci. We have evaluated the possible size of such an effect by performing a simple simulation. We have found that, if the calibration for the V magnitude (equation 1a) and the $B-V$ colours of the red stars (at $B-V=1.0$) are unaltered, the calibration equation for the B magnitude necessary to shift the MS in the correct direction should be

$$B = b + 21.75 + 0.30(b-v).$$

We find it very hard, however, to justify such a large difference with respect to equation (1b), especially the very strong colour dependence.

Thirdly, the adopted tables for conversion from the theoretical ($\log L/L_\odot$, $\log T_{eff}$) to the observational [M_V, $(B-V)$] plane could be inadequate and cause the discrepancy between the models and the data. In particular, in order to investigate the effect of metallicity, we have re-determined the location of the theoretical bands, adopting the models

computed by Buser & Kurucz (1978, 1992) for [Fe/H]= −0.5. As a result of adopting these models, the location of the MS band remains virtually unchanged, while the He-burning band shifts to the red by an amount $\Delta(B-V)\simeq 0.05$, leading perhaps to a better agreement for the RCl stars, but leaving the problem of the MS band unresolved.

Finally, the problem of the extension of the blue loops during the core He-burning phase has already been encountered in the analysis of other clusters in the LMC (see Alongi et al. 1991 for a recent discussion). The inclusion of overshooting from the base of the convective envelope can lead the model stars to describe extended loops during the core He-burning phase (Alongi et al. 1991).

In Fig. 35, the dotted lines limit the theoretical bands relative to models that incorporate this effect, and it can be seen that, although at the brightest magnitudes the core He-burning band is wider than that corresponding to canonical models, the loops remain too narrow in the magnitude range encompassed by our data.

In conclusion, while there is a fairly good match in luminosity, models and observations are somewhat discrepant in colour, but the combination of various observational effects can explain the problem. On the other hand, the location in effective temperature, in particular of He-burning models, is very sensitive to many details in the input physics used in the computations (Renzini et al. 1992), and the inconsistencies discussed could thus be due to the combination of a variety of 'subtle' causes.

4.2 Observational data and theoretical models: comparisons and discussion

The availability of quite a large sample of observed clusters and of various sets of theoretical models will now allow us to start testing the theoretical predictions by studying the variations of some crucial parameters measured on the cluster CMDs, and to verify whether it is feasible to bracket the RGB ph-t, if it exists. Before proceeding, however, it is important to stress a crucial methodological point.

As already noted, our photometry does not allow us to measure reliably the 'true' numbers of stars in each CMD zone to yield a quantitative description of the CMD loci of the individual clusters. In fact, using the available material we cannot compute corrections to cope with incompleteness, blending effects, field contamination, etc., at the level of accuracy needed to study the detailed luminosity functions reliably. Nevertheless, as we have shown in the specific case of NGC 1831 (see Section 3.2.3), we can safely determine a group of 'local' observables which are measured using the bulk of the stellar distributions in the cluster CMDs, and which do not require such corrections to be known precisely. In particular, we note that, in the comparison 'models versus observations', the crucial uncertainties to consider are not the photometric errors affecting the individual stars, but rather the errors that we can associate with the estimates of the adopted 'average' parameters.

After many tests based on various algorithms, which have shown that the measurements one obtains are actually driven by the choice of the sample of considered stars, rather than by the practical means used to compute them, we have decided to adopt for each parameter the average of a set of independent eye-estimates made by each of us. The adopted quantities are presented in Tables 17(a) and (b) for each cluster and for the fields on which the clusters appear to be projected, respectively. In particular, we list the following:

(i) the location in magnitude and colour of the main-sequence turn-off: $V_{TO}, (B-V)_{TO}$;

(ii) the average location in magnitude and colour of the Red Clump (RCl): $\langle V_{Cl}\rangle, \langle (B-V)_{Cl}\rangle$;

(iii) the location in magnitude and colour of the lower envelope of the clump: $V_{Cl,m}, (B-V)_{Cl,m}$; and

(iv) the average extension in magnitude and colour of the RCl: $\Delta V_{Cl}, \Delta(B-V)_{Cl}$.

To make comparisons, and also to obtain an independent idea of the possible uncertainties, we report in Table 18 the estimates found in the literature or measured by us for those clusters in common with other studies. As can be seen, in general the values of the colours obtained from previous studies are 0.05–0.10 mag redder than the corresponding ones determined here, while the displacement in luminosity is always within ±0.2 mag if the photometry of the other data is at least comparable. Consequently, we believe that the adoption of a *conservative* uncertainty of ±0.2 mag represents a fair estimate of the errors affecting our adopted observables, but they could well be smaller for the best clusters.

The estimates reported in Table 17(a) allow a direct comparison of the properties of the various clusters. In addition, they will yield a direct check of the theoretical pre-

Table 18. Mean loci from the literature.

Cluster	Reference	V_{TO}	$(B-V)_{TO}$	$<V_{Cl}>$	$<(B-V)_{Cl}>$	ΔV_{Cl}	$\Delta(B-V)_{Cl}$	Notes
NGC 1831	Hodge 84	19.3	0.00	18.4	0.80	18.0–18.8	0.70–0.90	field not subtracted–blending
NGC 1831	"	19.3	0.00	18.2	0.80	18.0–18.5	0.70–0.90	field subtracted
NGC 1831	"	18.9	0.00	19.1	0.80	18.9–19.3	0.65–1.00	field CMD
NGC 1831	Vallenari *et al.* 92	18.3	0.05	18.5	0.75	18.0–19.0	0.65–0.9	
NGC 1868	Flower *et al.* 80	19.3	0.10	19.5	0.70	18.7–20.0	0.60–0.80	
NGC 1868	"	~18.8	~0.10	~19.5	~0.75	19.0–20.0	0.70–0.80	field CMD–too sparse and poor
NGC 2162	Schommer *et al.* 84	19.4	0.25	19.1	0.76	18.7–19.6	0.70–0.88	
NGC 2190	Schommer *et al.* 84	19.4	0.23	19.5	0.88	18.9–19.8	0.75–0.96	
NGC 2209	Dottori *et al.* 87	19.5	0.24	19.3	0.75	19.0–20.0	0.65–0.95	
NGC 2209	Gascoigne 76	19.4	0.28	19.2	0.80	19.0–19.8	0.70–0.95	photographic
NGC 2249	Jones 87	19.2	0.15	19.2	0.85			very few dense-field not subtracted
NGC 2249	"	19.3	0.15	19.0	0.82	18.6–19.5	0.10–1.00	field subtracted
NGC 2249	"	19.4	0.17	19.2	0.83	18.7–19.4	0.78–0.96	field CMD

dictions, as can be seen if one recalls some important features displayed by the models.

As pointed out by Renzini & Buzzoni (1986) and Sweigart et al. (1990), the luminosity of core He-burning giants, $L_{\rm HeBG}$, is not a monotonic function of the evolutionary mass and, in turn, of the cluster age. In fact, as the mass decreases, for stars more massive than $M_{\rm HeF}$, (1) $L_{\rm HeBG}$ decreases, (2) it reaches a minimum for $M = M_{\rm HeF}$, and (3) it then increases. For stars with mass smaller than $M_{\rm HeF}$, the relation between the evolutionary mass and $L_{\rm HeBG}$ flattens, with a very mildly decreasing trend. The minimum in $L_{\rm HeBG}$ corresponds to the minimum of the core mass at He-ignition, and, in turn, this corresponds to the least massive model that ignites helium under non-degenerate conditions.

Conversely, the turn-off luminosity, $L_{\rm TO}$, is a monotonically decreasing function of the age of the population. By combining the two different trends with varying mass described above for $L_{\rm HeBG}$ and $L_{\rm TO}$, one can expect to detect a clear-cut minimum in a TO luminosity versus clump luminosity diagram.

Indeed, as emphasized by Sweigart et al. (1990), to plot observable quantities versus observable quantities is the best way to test the evolutionary models, since the comparison between the theory and the observations does not need any knowledge of the age. In particular, this approach may be useful to calibrate the overshooting parameter.

Fig. 36(a) displays the comparison between the theoretical predictions and our data, where, for each cluster, $V_{\rm TO}$ and $V_{\rm HB}$ are taken from Table 17(a) ($V_{\rm HB}$ is the same as $V_{\rm Cl}$) and the adopted uncertainties are set equal to ± 0.2 for all observables. Notice that the points corresponding to NGC 2190 and NGC 2209 are superimposed. The lines correspond to the models of Alongi et al. (1993) without (solid) and with (long-dashed) overshooting, and to the models of Castellani, Chieffi & Straniero (1992) (short-dashed). We have also plotted (dot–dashed line) the predictions of core He-burning models by Sweigart et al. (in preparation), computed with $Y = 0.20$ and $Z = 0.01$.

Concerning the models, a distance modulus of 18.6 and $E(B-V) = 0.1$ have been applied (see Westerlund 1990 for a review); the TO point has been taken as the top luminosity point, $V_{\rm TO}$, while $V_{\rm Cl,m}$ is the magnitude corresponding to the minimum luminosity attained during the core He-burning phase. It should be noted that the models computed by Castellani et al. (1992) refer to solar metallicity, which is surely too large to represent the stellar content in the LMC. Also, in the grid of models with convective overshooting by Alongi et al. (1993), there are no sequences of mass in the range 2 to 3 $M_\odot$. As a result, in Fig. 36 there is a jump from $V_{\rm TO} \sim 17.8$ to $V_{\rm TO} \sim 19.5$. Hence we prefer not to connect these points, as there may well be a change in the slope of the theoretical relation in this large interval of magnitude.

Inspection of the diagram shows that there is a very good overall agreement between the theoretical relations and the data points, and this confirms the validity of the overall theoretical scenario. It is still not possible, however, to choose the set of models that yields the best fit to the data.

In fact, as we have repeatedly noted, the data points still suffer from uncertainties which are too large to discriminate clearly between the different models in this plane. For instance, stellar blending could affect the measure of $V_{\rm TO}$, simulating a brighter MS termination (e.g. NGC 1831). The presence of an underlying older field population could alter the determination of $V_{\rm Cl,m}$, which could appear fainter if the cluster were very young (e.g. NGC 1756 and 2107). Finally, a smaller distance modulus and/or a lower value for the colour excess would shift the curves with respect to the data along a 45° line, toward the upper left-hand corner.

Since the minimum luminosity for core He-burning models is expected to occur at substantially different values of $V_{\rm TO}$ in 'classical' and 'overshooting' models, however, we can perhaps also conclude that our data, *taken at face value*, indicate that classical models seem to be more adequate to represent the variation of $V_{\rm Cl,m}$ as the TO mass decreases, especially in the vicinity of $M_{\rm HeF}$ and slightly beyond. This indication relies mostly on the data for NGC 2162 and NGC 2173, which, according to classical models, should have already experienced the RGB ph-t. Models computed with convective overshooting, instead, predict that clusters with $V_{\rm TO} \sim 20$ should have equally faint values of $V_{\rm Cl,m}$, corresponding to the minimum of $L_{\rm HeBG}$. More accurate observations for these clusters are in progress.

The minimum in $L_{\rm HeBG}$ for evolutionary masses in the vicinity of $M_{\rm HeF}$ can also be described by plotting the difference, $\Delta(V_{\rm TO} - V_{\rm HB})$, between $V_{\rm TO}$ and $V_{\rm HB}$ versus $V_{\rm TO}$. The plot resulting from our data is presented in Fig. 36(b), for two choices of the distance modulus, i.e. $(m-M)_0 = 18.6$ in the top panel, and $(m-M)_0 = 18.3$ in the bottom panel. The theoretical curves drawn in the two plots have the same meanings as in Fig. 36(a).

While inspecting the plots, it is important to note that in this diagram the ordinate is not affected by zero-point errors, and that for evolutionary masses smaller than $M_{\rm HeF}$ the theoretical loci rise steeply.

As already noted in the discussion of Fig. 35, there is a very good general agreement between the theoretical loci and the observations, but again the quality of our data does not allow us to draw firm conclusions on which set of models is preferable.

In summary, although not really conclusive as far as the choice between 'classical' and 'overshooting' models is concerned, the analysis of our data reveals that the general theoretical expectations are confirmed. Moreover, it seems possible to select a subset of clusters that are suitable to advance the study further.

4.3 The development of the RGB phase transition: qualitative ranking of the cluster CMD structure

Turning now more specifically to the problem of the direct detection of the development of the RGB in the observed CMD structure, our derived CMDs allow a *qualitative* description of how the general CMD features vary across the RGB ph-t. This is shown in Fig. 37, where we plot the average location of the MS band, of the RCl and of the RGB for six clusters around the RGB ph-t, compared to the analogous loci for two clusters chosen as reference templates: NGC 1756 and NGC 2173, i.e. the youngest and the oldest objects in our sample, respectively.

From the figure, it can be easily seen that, as the MS termination envelope becomes dimmer and dimmer going from panel (a) to panel (f), the RCl luminosity first decreases, reaches a minimum in NGC 2190 and NGC 2209, and eventually brightens in NGC 2162 and NGC 2173. Correspondingly, bright red giants are present in the CMDs of

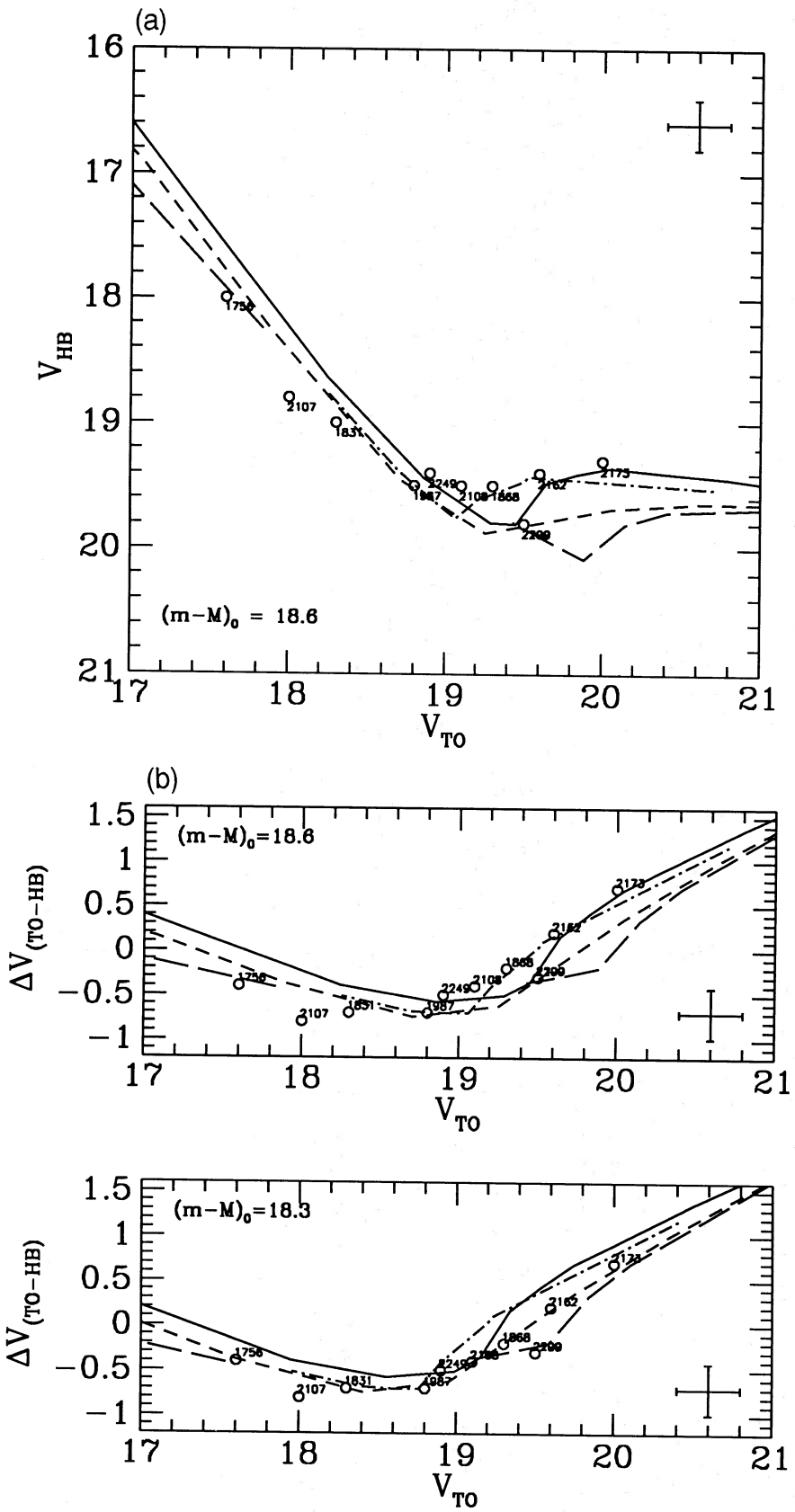

Figure 36. (a) Plot of V_{HB} versus V_{TO} for all the observed clusters. The various lines indicate the model predictions: solid and long-dashed lines refer to the models computed by Alongi et al. (1993), 'without' and 'with overshooting', respectively; the short-dashed line refers to the models presented by Castellani et al. (1992); the dot–dashed line refers to the models computed by Sweigart et al. (in preparation), with $y=0.20$; $z=0.01$. (b) Plot of $\Delta(V_{TO}-V_{HB})$ versus V_{TO} for two different assumptions about the distance modulus. Lines refer to the model predictions and have the same meaning as in panel (a).

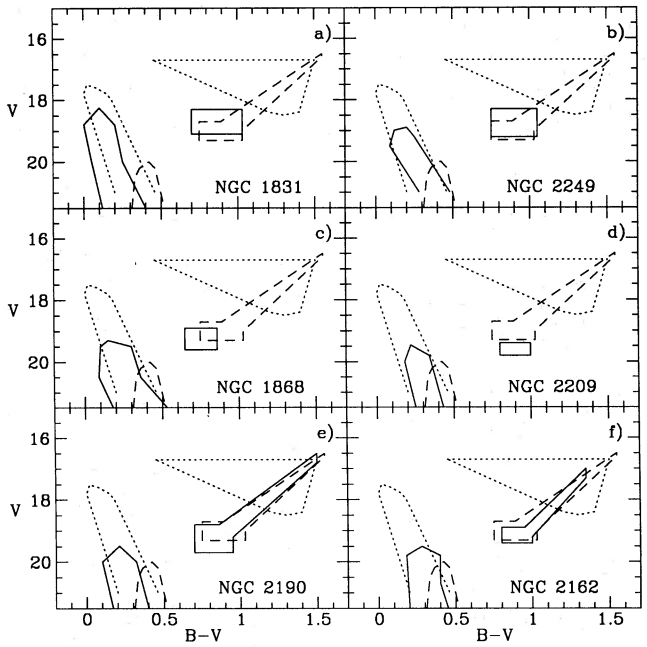

Figure 37. Qualitative ranking of the mean CMD loci with age. Age increases left to right, and top to bottom (a→f); the dashed lines are the fiducial loci for two reference clusters taken as templates (see text), i.e. NGC 1756 (short-dashed) and NGC 2173 (long-dashed), the youngest and the oldest of our sample, respectively.

NGC 2190, 2162 and 2173. Although still very qualitative, this ranking of the CMD structure reproduces the essence of the effects expected in the CMD due to the RGB ph-t. It is obvious that this evidence needs to be much better supported by further data. On the other hand, since the lifetimes of the considered evolutionary sequences are quite short and the available samples are poor and contaminated, the statistical significance of the result is still low. However, we can show in the specific case of NGC 2173 that, although the sample is still small, there is substantial agreement between the available data and the theoretical predictions.

In order to compare the observed number of cluster bright red giants with the theoretical expectations, one needs to evaluate the total luminosity sampled by our frames, and the contaminating contribution to the number of observed bright red giants arising from the underlying field. It is very difficult to obtain either factor in general. In the following we tentatively discuss the case of NGC 2173.

The expected number of RGB stars brighter than the clump stars scales with the total luminosity L_T sampled by our frames, according to the relation

$$N_{RGB} = B(t) \times L_T \times \Delta t_{RGB}, \quad (2)$$

where Δt_{RGB} is the time spent by model stars on the RGB at luminosities brighter than the clump luminosity, and $B(t)$ is the specific evolutionary flux (RB86).

For populations with age in the range 0.5–1.0 Gyr, $B(t) \sim 1.8 \times 10^{-11}$ (Renzini, private communication). On the other hand, Δt_{RGB} is ~30 Myr in the relevant mass range (Sweigart et al. 1989). Therefore, in clusters that have already experienced the RGB ph-t, we expect ~5 bright RGB stars every 10^4 $L_\odot$ sampled in the observations.

In the same region of the CMD, AGB stars are present as well. Typically, stars with mass $< M_{HeF}$ spend ~15 Myr on the AGB (Renzini & Fusi Pecci 1988), i.e. the ratio of the time spent on the RGB at luminosities brighter than the clump luminosity to the time spent on the early AGB is ~2 soon after the RGB ph-t. Hence, adding the two contributions, the number of expected bright red giants rises to ~8 for every 10^4 $L_\odot$ sampled.

Since for NGC 2173 the core and the tidal radius are available from the literature, we can derive the total luminosity sampled by our frames by constructing a King model of the cluster and integrating the flux over the observed area. Adopting $V = 12.30$ for the integrated magnitude over a radius of 62 arcsec, a distance modulus of 18.6, and a colour excess of 0.1, we get for the total cluster luminosity $L_V = 3.3 \times 10^4 L_{V\odot}$. Our measurements can be considered to be complete and sufficiently uncontaminated over the annulus with $40 < r < 180$ pixel, (i.e. $14 < r < 63$ arcsec). By assuming from Table 4 a value for r_c ranging from 2 to 6.2 pc, the total luminosity sampled within the considered area turns out to be $L_V = (2.1\text{–}2.8) \times 10^4 L_{V\odot}$, where the lower and upper limits correspond to 2 and 6.2 pc, respectively. To transform this number into a bolometric magnitude, we need a bolometric correction for a population of adequate age. On the basis of models for simple stellar populations by Guastamacchia (1992), we evaluate $L_{Bol} \simeq 1.7 L_V$. Consequently, the bolometric luminosity sampled by our considered annulus ranges from 3.6 to 4.7×10^4 $L_\odot$.

By inserting now all the estimated values into equation 2, one predicts the detection, in the CMD of the quoted annulus, of 30–40 bright red giants. Since we have actually observed approximately 45 red giants brighter than the clump, and since a few field interlopers are surely present, the agreement is thus excellent, and this encourages us to pursue this kind of analysis further.

5 SUMMARY AND CONCLUSIONS

The basic scientific aim of our long-term project is the detailed analysis of the stellar content of a sample of MC clusters, to test the stellar evolutionary models and to study the evolution of the integrated colours of template simple stellar populations (SSPs) for cosmological purposes.

In particular, with the present paper (devoted to CCD *BV* data) and the companion Paper II (reporting on *JHK* IR-array observations of essentially the same sample of MC clusters) we have experimentally analysed the problems of (i) the existence of the so-called AGB and RGB phase-transitions (RB86), and (ii) their possible impact on integrated SSP magnitudes and colours.

To summarize, RB86 called the 'phase transition' the rapid variations they predicted to be induced in the integrated cluster colours by the 'sudden' appearance in the SSPs of AGB and RGB stars, mainly as a result of the transition of, respectively, CO and He cores from a non-degenerate to a highly degenerate state. Although not excluding a priori the possible detectability of these two phase transitions in a truly SSP (as MC clusters are), CBB88 and BCF93 have found from their models that the effects induced by the phase transitions are *in practice* masked by various other factors, and they cannot be used as 'safe' age indicators for distant galaxies. However, the problems strictly

related to the testing of the models and of the actual behaviour of a pure SSP, and to the full exploitation of these 'atomic' template SSPs for a population synthesis approach to cosmology, are far from being settled. Hence only observational data such as those reported here can yield important information directly.

Since the best objects to use to study these problems are the MC clusters (and, especially, those of SWB class IV–V), we have observed a sample of about a dozen LMC clusters to secure CMDs for the individual cluster members.

In fact, although statistical sampling, field contamination and crowding problems have made the proposed task very hard to accomplish, we believe that we have found interesting direct observational indications which (i) support the overall theoretical framework, (ii) essentially confirm the existence of the predicted phase transitions (see also Paper II), and (iii) allow us to evaluate their impact on the integrated colours, at least to a first-order approximation (Paper II).

More specifically, the main results of the present work are the following.

(1) CMDs have been constructed for 11 MC clusters down to $V \sim 22$, i.e. about 2–3 mag below the turn-off, with populous samples ranging from 500 to 2000 stars per cluster.

(2) A set of CMD observables has been defined and measured; this can yield a direct comparison with corresponding quantities obtained from the theoretical models to verify their compatibility and, possibly, to obtain useful indications on problems like the importance of special phenomena such as those related to convective overshooting.

(3) The overall theoretical framework for the description of the evolution of stars with masses in the range of interest ($M \sim 1.0$–$3.0\ M_{\odot}$) has been confirmed.

(4) The comparison of the global CMD (obtained from the addition of all the measured stars in a single CMD) with the H-burning and He-burning bands predicted by the models has revealed, however, that, independently of the adopted distance modulus and reddening, the separation in colour between the MS band (H-burning) and the Red Clump (He-burning) is smaller than predicted by any theoretical track, either 'classical' or 'with overshooting'. In particular, the MS is too red by about 0.05–0.10 mag and the Red Clump is much more extended than expected. Several possible causes (either observational or theoretical) have been considered to explain the discrepancy, but no obvious solution has yet been found. A combination of various factors can probably explain this specific result.

(5) In the plane (V_{TO}, $V_{Cl,m}$), the models yield a very good description of the data. In particular, the cluster ranking follows nicely the mean locus predicted by the theory. A similar agreement can also be found in the plane [V_{TO}, $\Delta(V_{TO} - V_{Cl,m})$], where the ordinate is, moreover, distance- and reddening-independent.

(6) With the current sample, it is still impossible to choose decisively between 'classical' and 'overshooting' models. Both sets yield a good fit to the data, classical models being apparently better if the observational results are taken at face value. Since, for values of the turn-off in the range $V_{TO} \sim$ 19–20.5, the two sets behave quite differently in the two considered planes, for a clear-cut discrimination one must know V_{TO} with a true uncertainty of about 0.05 mag, possibly for many other clusters. This level of accuracy is in principle achievable if the central, field-uncontaminated regions of the clusters are resolved (possibly with *HST*) to yield populous and photometrically accurate samples of stars.

(7) The existence of the so-called RGB ph-t seems to be confirmed, at least qualitatively, from the inspection of the CMDs and of the derived CMD observables. In particular, the behaviour of the luminosities of Red Clump stars and of the RGB development is consistent with the theoretical predictions. On the other hand, observational factors, like field contamination, crowding, incompleteness and intrinsic poorness of the available samples, still limit quite severely the ability to yield a quantitative description of the transition. A small subset of clusters (NGC 2209, 2190, 2162) has, however, been identified for future deeper study; these clusters are most suitable for a further detailed investigation with *HST*.

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Globular clusters in the Magellanic Clouds – I. *BV* CCD photometry for 11 clusters

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Table 6 : Magnitudes, Colors and Positions of Stars in NGC 1756.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.24	0.11	250.	7.	61	19.53	0.14	88.	51.	121	19.95	0.07	238.	91.	181	20.55	0.22	105.	132.
2	20.18	0.05	63.	10.	62	19.10	0.92	126.	51.	122	19.05	0.18	153.	91.	182	21.18	0.42	169.	132.
3	19.28	0.90	90.	10.	63	19.83	-0.03	187.	52.	123	18.97	0.02	220.	92.	183	20.77	0.30	312.	132.
4	19.83	1.05	256.	11.	64	19.66	0.14	294.	52.	124	21.54	0.31	318.	92.	184	20.59	0.24	239.	134.
5	20.44	0.86	265.	11.	65	21.07	0.22	185.	52.	125	20.40	0.46	59.	92.	185	19.28	0.13	64.	134.
6	21.51	0.55	84.	12.	66	20.32	0.19	256.	54.	126	19.79	0.14	182.	93.	186	18.26	0.25	243.	135.
7	19.96	0.96	164.	12.	67	20.26	0.19	305.	54.	127	19.08	1.07	65.	93.	187	20.57	0.28	200.	136.
8	19.87	0.28	231.	13.	68	19.34	0.19	250.	55.	128	20.22	0.17	95.	96.	188	20.35	0.26	67.	137.
9	21.44	0.54	129.	13.	69	20.31	0.32	75.	58.	129	20.39	0.14	316.	96.	189	20.58	0.35	65.	139.
10	19.65	0.94	51.	14.	70	20.76	0.45	131.	59.	130	16.82	-0.06	205.	96.	190	20.07	0.17	203.	140.
11	20.17	0.19	60.	14.	71	19.83	0.84	117.	59.	131	20.28	0.18	38.	96.	191	19.33	0.08	80.	141.
12	19.17	0.83	132.	14.	72	19.04	0.86	223.	60.	132	19.86	0.18	74.	97.	192	16.99	0.12	105.	143.
13	17.80	-0.04	307.	15.	73	19.83	0.88	70.	60.	133	21.59	0.51	235.	97.	193	17.37	0.12	103.	144.
14	20.48	0.14	261.	16.	74	20.36	0.16	219.	60.	134	20.97	0.50	57.	99.	194	19.56	1.00	228.	145.
15	20.75	0.52	11.	16.	75	20.42	0.10	265.	61.	135	19.60	0.73	211.	99.	195	20.17	0.19	76.	146.
16	18.49	0.05	17.	18.	76	20.06	0.77	136.	61.	136	21.22	0.64	307.	100.	196	19.19	0.97	143.	146.
17	20.37	0.10	268.	19.	77	20.59	0.13	315.	61.	137	20.00	1.18	235.	100.	197	20.24	0.20	225.	147.
18	20.64	0.18	61.	19.	78	16.80	0.84	287.	61.	138	19.39	0.19	42.	102.	198	19.86	0.53	207.	149.
19	21.34	0.17	21.	19.	79	20.18	1.39	302.	61.	139	20.18	0.07	302.	102.	199	21.40	0.79	75.	150.
20	19.64	1.01	88.	19.	80	17.57	-0.05	228.	62.	140	18.53	0.02	99.	104.	200	20.40	0.32	33.	150.
21	20.11	0.23	265.	19.	81	20.60	0.29	10.	63.	141	20.35	0.37	212.	104.	201	17.58	0.10	94.	151.
22	20.76	0.42	274.	20.	82	19.21	0.09	100.	64.	142	21.25	0.26	93.	104.	202	19.84	0.34	66.	152.
23	19.66	0.06	173.	20.	83	17.52	1.10	49.	65.	143	18.86	0.07	52.	108.	203	20.43	0.20	293.	153.
24	21.34	0.40	201.	20.	84	17.96	0.98	198.	65.	144	18.38	-0.01	257.	111.	204	19.69	0.34	285.	153.
25	20.91	0.30	242.	20.	85	20.43	0.18	203.	65.	145	19.42	0.11	133.	111.	205	20.19	0.30	211.	154.
26	21.92	0.47	204.	21.	86	19.71	0.08	269.	65.	146	19.13	0.91	47.	111.	206	20.03	0.22	161.	156.
27	20.30	0.11	[illegible]	22.	87	20.15	0.17	135.	66.	147	20.82	0.15	224.	112.	207	20.91	0.25	166.	157.
28	20.04	0.05	229.	22.	88	17.84	0.04	109.	67.	148	18.44	0.83	76.	112.	208	18.67	1.05	312.	157.
29	21.83	0.64	195.	23.	89	19.19	0.09	238.	67.	149	20.08	1.08	236.	113.	209	18.78	0.08	41.	157.
30	18.61	0.08	240.	24.	90	20.08	0.21	11.	69.	150	21.01	0.38	267.	113.	210	20.49	0.24	95.	160.
31	20.52	0.19	276.	24.	91	20.37	0.26	262.	69.	151	19.79	0.22	15.	113.	211	19.38	0.16	42.	161.
32	20.60	0.12	200.	25.	92	18.96	0.01	295.	69.	152	19.37	0.98	270.	114.	212	19.00	0.16	196.	162.
33	18.25	0.04	13.	26.	93	19.78	0.11	78.	70.	153	19.61	1.01	304.	114.	213	19.46	0.37	49.	162.
34	20.90	0.45	17.	29.	94	20.31	0.40	198.	70.	154	17.85	0.06	45.	114.	214	22.17	0.54	88.	162.
35	21.49	0.63	8.	30.	95	20.08	0.13	168.	74.	155	19.69	0.23	249.	114.	215	20.49	0.23	210.	163.
36	20.00	0.21	306.	30.	96	19.37	1.05	69.	75.	156	21.12	0.68	299.	115.	216	21.03	0.68	207.	163.
37	20.51	0.43	175.	32.	97	20.40	0.23	200.	75.	157	17.02	1.02	69.	115.	217	19.50	0.95	21.	163.
38	21.45	1.06	13.	32.	98	17.28	1.50	73.	76.	158	19.43	0.16	141.	116.	218	21.03	0.44	57.	163.
39	19.92	0.14	47.	33.	99	20.31	0.26	244.	79.	159	20.52	0.17	233.	116.	219	21.33	0.87	18.	165.
40	17.84	-0.04	82.	33.	100	19.31	0.17	284.	79.	160	18.96	0.48	74.	117.	220	18.14	0.33	197.	165.
41	19.98	0.47	176.	35.	101	20.25	0.23	279.	79.	161	19.94	1.05	243.	117.	221	20.71	0.15	246.	167.
42	21.51	0.41	305.	36.	102	16.81	-0.01	11.	79.	162	20.17	0.94	228.	117.	222	19.59	0.92	60.	168.
43	19.30	0.96	228.	36.	103	19.98	0.61	70.	80.	163	18.84	0.04	227.	121.	223	20.35	0.11	133.	169.
44	19.01	0.91	312.	36.	104	19.63	0.17	298.	82.	164	16.68	0.06	123.	121.	224	19.74	0.34	58.	169.
45	20.61	0.16	45.	38.	105	18.53	0.06	249.	82.	165	19.16	0.89	273.	121.	225	18.19	0.18	35.	170.
46	19.34	0.03	225.	39.	106	19.53	0.25	96.	83.	166	20.27	0.35	314.	123.	226	21.62	0.38	164.	170.
47	20.40	0.30	17.	39.	107	21.14	-0.20	98.	83.	167	20.00	0.28	94.	124.	227	20.32	0.40	168.	173.
48	20.13	0.13	181.	41.	108	21.11	0.31	199.	83.	168	19.74	0.92	204.	124.	228	19.28	0.19	251.	174.
49	19.36	1.08	223.	41.	109	21.74	0.65	90.	84.	169	17.69	0.05	101.	125.	229	20.77	0.37	121.	175.
50	18.64	0.89	20.	43.	110	15.53	-0.11	262.	86.	170	19.08	1.14	22.	126.	230	19.39	0.92	257.	175.
51	19.51	0.98	219.	43.	111	20.61	0.28	302.	86.	171	18.96	0.10	220.	127.	231	21.72	0.42	159.	176.
52	21.50	0.60	25.	44.	112	20.02	0.12	200.	86.	172	20.57	1.01	312.	127.	232	19.79	0.25	57.	176.
53	19.62	0.98	41.	44.	113	19.19	0.07	74.	87.	173	18.07	0.01	79.	127.	233	20.99	0.24	263.	176.
54	20.11	0.19	240.	46.	114	20.53	0.19	125.	87.	174	19.19	0.20	196.	128.	234	17.48	0.67	233.	176.
55	19.07	0.88	282.	49.	115	21.03	0.38	91.	87.	175	18.76	1.06	215.	128.	235	17.56	1.65	290.	177.
56	19.72	0.05	130.	49.	116	19.33	-0.02	219.	88.	176	21.62	0.53	15.	128.	236	20.75	0.36	178.	179.
57	20.08	0.09	137.	49.	117	20.94	0.40	291.	89.	177	20.94	0.25	265.	128.	237	20.31	0.19	125.	180.
58	18.35	1.11	90.	49.	118	19.22	-0.01	152.	89.	178	19.46	1.10	101.	129.	238	20.10	0.32	206.	180.
59	20.48	0.26	134.	50.	119	21.37	0.41	196.	90.	179	20.43	0.29	268.	130.	239	21.29	0.55	176.	180.
60	18.30	0.05	227.	50.	120	19.73	0.08	214.	91.	180	18.15	0.16	176.	131.	240	20.23	0.40	182.	182.

Table 6 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.22	0.40	297.	183.	301	19.53	0.18	224.	224.	361	19.70	0.22	239.	246.	421	19.39	0.22	138.	268.
242	18.70	0.73	162.	183.	302	20.10	0.25	57.	224.	362	19.85	0.25	63.	247.	422	18.33	0.21	167.	268.
243	20.28	0.25	196.	184.	303	17.70	0.19	215.	225.	363	20.70	0.11	55.	247.	423	20.51	0.37	106.	269.
244	20.92	0.31	71.	184.	304	20.61	0.35	198.	226.	364	18.75	0.13	191.	247.	424	18.20	-0.04	188.	269.
245	20.35	0.19	314.	184.	305	19.18	0.80	97.	226.	365	20.39	0.35	69.	249.	425	18.16	0.27	209.	270.
246	18.29	0.75	210.	185.	306	18.69	0.17	110.	227.	366	18.89	0.23	292.	249.	426	19.09	-0.03	160.	271.
247	20.17	0.19	76.	186.	307	20.66	0.42	53.	227.	367	19.94	0.16	134.	249.	427	19.39	0.10	86.	271.
248	21.33	0.54	193.	186.	308	20.46	0.26	310.	227.	368	17.49	0.82	204.	249.	428	20.12	1.18	49.	271.
249	20.13	0.13	78.	186.	309	20.23	0.19	243.	227.	369	21.14	0.24	225.	250.	429	18.45	0.10	169.	271.
250	19.74	0.17	27.	187.	310	19.92	0.19	135.	227.	370	17.01	0.58	163.	250.	430	17.35	0.99	190.	271.
251	19.72	0.14	276.	188.	311	20.23	0.23	189.	227.	371	19.96	0.15	29.	250.	431	20.22	0.24	250.	271.
252	20.39	0.32	207.	189.	312	18.85	0.22	164.	227.	372	18.63	0.22	216.	251.	432	16.73	1.21	212.	272.
253	20.26	0.18	66.	191.	313	17.08	0.81	177.	229.	373	17.92	0.07	151.	251.	433	18.89	0.10	92.	272.
254	20.38	0.31	204.	191.	314	19.38	0.38	172.	230.	374	20.00	1.18	268.	252.	434	18.37	0.11	220.	272.
255	20.42	0.26	173.	192.	315	18.90	0.13	289.	230.	375	18.98	-0.01	178.	252.	435	19.23	0.27	231.	272.
256	20.34	0.24	13.	192.	316	20.04	0.26	138.	231.	376	17.26	0.95	175.	252.	436	20.20	0.26	140.	272.
257	18.22	0.19	34.	195.	317	18.87	1.11	200.	231.	377	19.47	-0.01	192.	252.	437	18.24	0.10	166.	273.
258	19.05	0.27	200.	196.	318	19.71	0.11	189.	232.	378	19.12	0.30	212.	252.	438	20.49	0.13	291.	273.
259	19.62	0.96	106.	196.	319	20.15	0.22	158.	232.	379	19.84	1.10	50.	252.	439	19.41	0.19	136.	273.
260	19.25	0.68	102.	197.	320	20.42	0.05	122.	232.	380	19.96	0.16	243.	253.	440	18.50	0.03	160.	274.
261	18.77	0.99	312.	197.	321	20.78	0.30	185.	233.	381	18.35	0.24	206.	253.	441	18.28	0.13	201.	274.
262	21.01	0.31	173.	198.	322	19.73	0.19	132.	234.	382	18.95	0.19	202.	254.	442	18.54	0.06	188.	274.
263	19.89	0.31	190.	199.	323	19.76	0.55	137.	234.	383	19.10	0.47	198.	254.	443	19.57	0.72	206.	275.
264	21.15	0.36	204.	199.	324	17.52	1.59	105.	235.	384	16.76	0.79	167.	254.	444	18.57	0.10	152.	275.
265	16.71	0.71	218.	200.	325	18.39	1.10	217.	235.	385	18.09	0.63	21.	255.	445	19.39	0.43	113.	276.
266	20.00	0.37	180.	201.	326	18.00	1.35	158.	235.	386	20.35	0.20	247.	255.	446	17.61	0.01	162.	277.
267	20.08	0.26	201.	201.	327	19.31	0.19	191.	235.	387	19.41	-0.02	190.	256.	447	19.03	0.12	73.	277.
268	21.21	0.66	99.	202.	328	20.03	0.07	114.	236.	388	20.11	0.17	82.	256.	448	19.14	0.88	52.	277.
269	20.24	0.22	147.	204.	329	18.13	1.07	119.	236.	389	18.16	1.38	216.	256.	449	18.18	0.11	194.	277.
270	20.29	0.33	264.	205.	330	19.54	0.17	172.	236.	390	17.52	0.09	170.	256	450	20.73	0.25	227.	277.
271	19.84	0.20	213.	206.	331	18.58	1.60	45.	236.	391	19.73	0.20	91.	257.	451	17.39	0.78	259.	277.
272	19.29	0.96	48.	206.	332	20.65	0.19	248.	236.	392	18.84	0.14	157.	257.	452	19.69	0.36	255.	278.
273	19.69	1.11	290.	207.	333	18.60	-0.02	166.	237.	393	16.90	0.84	186.	258.	453	18.67	0.22	35.	279.
274	19.06	0.34	172.	211.	334	20.22	0.26	253.	237.	394	19.13	0.80	138.	259.	454	20.09	0.18	297.	279.
275	20.05	0.13	88.	212.	335	19.64	0.22	304.	237.	395	17.36	1.39	179.	259.	455	18.14	0.05	211.	279.
276	17.37	0.18	184.	212.	336	17.93	1.32	178.	238.	396	18.69	0.21	201.	259.	456	20.45	0.50	231.	279.
277	19.28	0.47	231.	213.	337	19.99	0.99	110.	239.	397	18.26	0.10	194.	259.	457	19.45	0.25	171.	279.
278	19.22	0.93	214.	214.	338	20.37	0.42	225.	240.	398	17.33	1.31	143.	259.	458	16.72	0.46	185.	280.
279	18.75	1.07	85.	214.	339	17.54	1.18	166.	240.	399	18.37	0.13	129.	260.	459	18.27	0.17	200.	280.
280	19.40	0.90	67.	214.	340	21.01	0.15	262.	240.	400	19.92	1.15	224.	260.	460	18.75	0.17	126.	280.
281	17.37	1.56	57.	215.	341	19.63	0.28	122.	240.	401	20.76	0.10	117.	260.	461	20.66	0.20	132.	281.
282	19.68	0.22	200.	215.	342	18.10	1.23	148.	241.	402	19.48	0.21	111.	260.	462	18.36	0.05	206.	282.
283	20.60	0.31	205.	215.	343	20.63	0.24	237.	241.	403	18.89	0.31	159.	260.	463	17.86	0.31	158.	282.
284	20.16	0.19	121.	215.	344	19.88	0.17	251.	241.	404	17.48	0.13	171.	261.	464	17.86	-0.09	179.	282.
285	21.32	0.57	211.	216.	345	19.18	0.22	179.	242.	405	18.14	0.13	205.	261.	465	17.96	1.27	239.	282.
286	17.41	1.60	267.	216.	346	19.87	0.18	259.	243.	406	20.26	0.50	316.	261.	466	18.75	0.05	217.	283.
287	19.28	1.11	70.	217.	347	20.69	0.34	268.	243.	407	18.85	0.11	174.	263.	467	17.99	-0.01	171.	283.
288	19.34	0.22	167.	217.	348	18.00	0.10	141.	244.	408	18.17	0.11	165.	263.	468	20.78	0.41	244.	283.
289	19.29	0.91	258.	218.	349	20.19	0.75	60.	244.	409	20.83	0.23	118.	264.	469	18.23	-0.12	157.	284.
290	20.74	0.55	86.	218.	350	18.61	0.20	181.	244.	410	19.80	0.24	132.	264.	470	17.32	0.22	191.	284.
291	17.55	1.42	272.	218.	351	20.56	0.32	263.	245.	411	19.99	0.10	222.	264.	471	17.55	0.09	34.	284.
292	21.48	0.61	120.	220.	352	19.14	0.22	233.	245.	412	19.16	0.19	236.	265.	472	18.97	0.09	118.	285.
293	20.36	0.16	185.	220.	353	20.31	0.32	309.	245.	413	19.41	0.10	206.	265.	473	21.19	0.34	109.	285.
294	19.85	0.24	176.	220.	354	19.03	0.25	229.	245.	414	20.86	0.07	274.	266.	474	20.13	0.21	252.	285.
295	20.00	0.24	281.	220.	355	20.04	0.23	303.	245.	415	19.49	0.16	108.	266.	475	20.41	0.24	105.	285.
296	18.73	1.03	98.	221.	356	20.40	0.46	47.	245.	416	20.79	0.33	78.	267.	476	20.08	0.48	238.	286.
297	19.90	0.15	220.	222.	357	20.53	0.10	133.	246.	417	18.27	0.09	176.	267.	477	18.08	0.05	167.	287.
298	19.82	0.97	90.	223.	358	16.98	1.05	211.	246.	418	17.42	0.06	308.	267.	478	20.75	0.38	102.	287.
299	20.00	0.16	296.	223.	359	17.97	0.11	188.	246.	419	17.46	0.77	149.	268.	479	17.77	0.05	198.	288.
300	18.23	0.12	166.	223.	360	18.79	0.23	169.	246.	420	19.33	0.10	271.	268.	480	19.56	0.27	147.	288.

Table 6 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	18.63	0.08	217.	288.	541	18.93	0.17	159.	308.	601	19.66	0.26	91.	334.	661	20.95	0.51	252.	362.
482	20.42	0.10	86.	289.	542	18.89	0.18	148.	308.	602	19.33	0.91	163.	334.	662	20.25	0.96	26.	363.
483	20.44	0.32	131.	289.	543	21.44	0.46	74.	308.	603	20.14	0.15	141.	335.	663	21.05	0.42	256.	363.
484	21.14	0.54	83.	290.	544	16.94	0.92	225.	308.	604	18.98	0.88	170.	335.	664	18.16	0.97	116.	363.
485	16.65	0.59	171.	290.	545	19.41	0.17	298.	308.	605	17.46	0.05	223.	336.	665	19.25	1.16	286.	363.
486	17.81	0.07	206.	290.	546	18.95	0.07	203.	309.	606	20.24	0.27	154.	337.	666	19.93	0.98	37.	365.
487	19.48	0.28	228.	291.	547	19.79	0.20	163.	309.	607	19.75	0.18	195.	337.	667	20.51	0.28	31.	365.
488	20.18	0.41	126.	291.	548	19.03	0.15	316.	309.	608	18.32	0.14	176.	337.	668	19.78	0.06	96.	366.
489	20.10	0.14	245.	291.	549	20.57	0.20	94.	309.	609	17.16	1.21	91.	337.	669	20.42	0.21	75.	366.
490	18.44	0.15	188.	291.	550	20.41	0.54	144.	309.	610	19.80	1.28	299.	338.	670	19.49	0.13	208.	367.
491	17.21	1.08	153.	292.	551	19.95	0.27	207.	310.	611	20.81	0.14	29.	338.	671	20.82	0.34	187.	367.
492	19.83	0.23	285.	292.	552	20.02	0.05	179.	310.	612	17.72	1.47	240.	339.	672	19.70	0.07	199.	368.
493	20.34	0.40	37.	292.	553	20.44	0.27	15.	310.	613	20.72	0.30	133.	339.	673	20.24	0.39	101.	369.
494	19.48	-0.03	196.	293.	554	17.99	0.17	132.	311.	614	17.80	0.15	220.	339.	674	20.35	0.11	172.	370.
495	17.88	0.05	165.	293.	555	17.68	1.21	20.	311.	615	18.91	1.02	42.	340.	675	19.49	0.24	69.	370.
496	18.53	0.25	202.	293.	556	19.63	0.94	91.	312.	616	18.46	0.15	82.	340.	676	20.41	0.14	129.	370.
497	20.13	0.29	211.	293.	557	20.38	0.16	115.	312.	617	21.14	0.41	167.	341.	677	20.49	0.35	120.	370.
498	20.40	0.26	111.	293.	558	20.03	0.20	211.	313.	618	21.09	0.49	101.	341.	678	18.27	1.24	277.	370.
499	18.58	0.15	177.	294.	559	21.82	0.45	217.	314.	619	18.34	0.14	244.	341.	679	20.55	0.19	257.	370.
500	19.43	1.30	73.	294.	560	20.26	0.27	111.	315.	620	20.83	0.07	185.	341.	680	19.73	0.08	142.	370.
501	20.07	0.26	103.	294.	561	19.99	0.20	158.	315.	621	19.36	0.80	11.	342.	681	20.41	0.20	134.	371.
502	18.08	0.18	182.	294.	562	19.40	0.16	191.	315.	622	20.16	0.23	106.	343.	682	19.48	0.14	180.	371.
503	19.83	0.99	79.	294.	563	19.40	0.20	120.	315.	623	21.36	0.33	170.	343.	683	20.44	0.11	298.	371.
504	18.30	0.15	150.	295.	564	19.91	0.36	149.	317.	624	20.74	0.48	198.	344.	684	18.09	0.12	291.	372.
505	20.53	0.20	242.	295.	565	19.73	0.14	171.	318.	625	20.57	0.23	208.	344.	685	20.31	0.34	231.	373.
506	20.70	0.46	250.	296.	566	18.67	0.89	137.	318.	626	20.16	0.14	21.	345.	686	19.68	0.11	188.	374.
507	18.07	-0.01	170.	296.	567	21.18	0.42	182.	318.	627	20.39	0.20	135.	345.	687	20.60	0.19	311.	375.
508	20.20	0.33	41.	296.	568	20.16	0.31	175.	318.	628	20.68	0.35	110.	346.	688	18.10	0.06	96.	378.
509	17.52	1.35	145.	297.	569	20.53	0.20	210.	318.	629	19.56	0.87	14.	347.	689	17.29	0.67	297.	378.
510	20.14	0.12	124.	297.	570	18.88	1.11	59.	318.	630	20.58	0.15	225.	347.	690	18.85	0.12	182.	378.
511	20.48	0.33	290.	297.	571	21.21	0.19	90.	319.	631	18.81	0.09	220.	347.	691	19.55	0.94	77.	380.
512	17.44	0.02	274.	297.	572	19.83	0.12	77.	319.	632	20.49	0.20	233.	347.	692	21.80	0.48	312.	380.
513	18.68	0.11	132.	297.	573	20.76	0.31	149.	321.	633	20.26	0.27	28.	348.	693	18.37	0.59	101.	382.
514	19.77	0.92	222.	297.	574	19.31	0.20	124.	321.	634	19.88	0.16	312.	348.	694	19.08	0.09	272.	383.
515	20.74	0.37	118.	298.	575	20.63	0.41	64.	321.	635	20.33	0.27	129.	349.	695	19.93	0.25	71.	383.
516	17.37	0.97	205.	298.	576	20.03	0.26	88.	322.	636	19.03	0.15	172.	349.	696	19.72	0.71	285.	384.
517	19.25	0.13	177.	300.	577	20.26	0.19	158.	322.	637	17.99	1.25	217.	350.	697	20.00	0.30	209.	384.
518	20.62	0.15	213.	300.	578	19.05	0.12	206.	323.	638	19.62	1.02	89.	351.	698	20.85	0.24	73.	385.
519	19.32	0.99	25.	300.	579	17.18	1.18	100.	323.	639	20.09	0.21	187.	351.	699	17.26	-0.07	251.	386.
520	19.20	0.92	89.	300.	580	19.74	0.24	181.	323.	640	19.51	0.10	117.	351.	700	19.41	0.14	164.	387.
521	21.42	0.53	245.	300.	581	20.00	0.96	57.	324.	641	20.34	0.04	11.	352.	701	20.62	0.22	205.	388.
522	20.95	0.04	123.	301.	582	17.46	0.10	70.	324.	642	20.18	0.25	110.	352.	702	19.56	0.19	115.	390.
523	20.86	0.47	120.	301.	583	19.55	0.23	115.	324.	643	19.66	0.90	147.	352.	703	20.76	0.21	76.	391.
524	20.26	0.19	158.	302.	584	20.59	0.31	213.	325.	644	20.25	0.51	73.	353.	704	19.56	1.00	163.	391.
525	19.99	0.14	199.	302.	585	16.63	1.50	177.	325.	645	18.99	0.56	32.	354.	705	20.05	0.94	213.	392.
526	16.81	0.74	190.	303.	586	21.46	0.74	58.	326.	646	20.36	0.14	158.	354.	706	20.91	0.54	160.	392.
527	19.59	1.13	217.	303.	587	20.51	0.34	137.	327.	647	20.82	0.28	184.	355.	707	18.3	1.32	135.	393.
528	20.50	0.24	132.	303.	588	20.66	0.20	167.	328.	648	21.50	0.03	94.	355.	708	20.64	0.28	72.	393.
529	18.93	0.13	203.	303.	589	18.48	1.75	177.	328.	649	19.55	1.08	101.	356.	709	19.46	0.16	91.	393.
530	20.30	0.14	154.	304.	590	19.52	0.25	51.	328.	650	20.92	0.22	105.	356.	710	20.82	0.28	138.	397.
531	19.14	0.14	172.	304.	591	20.34	0.28	160.	329.	651	19.07	0.16	145.	356.	711	19.78	1.03	210.	397.
532	19.22	0.16	229.	304.	592	19.47	0.18	172.	329.	652	20.70	-0.22	6.	357.	712	19.99	0.22	287.	397.
533	19.86	0.28	237.	305.	593	19.04	0.12	80.	330.	653	19.16	1.01	44.	359.	713	19.32	0.97	207.	397.
534	17.81	0.05	190.	305.	594	20.00	0.19	144.	330.	654	20.20	0.35	59.	359.	714	20.58	0.05	239.	399.
535	20.26	0.12	196.	306.	595	18.87	0.17	27.	331.	655	21.37	0.57	277.	359.	715	18.96	0.10	150.	401.
536	21.28	0.20	97.	306.	596	19.53	0.14	234.	331.	656	19.98	0.14	171.	360.	716	19.77	0.32	32.	401.
537	19.67	0.27	86.	306.	597	18.40	0.16	193.	332.	657	21.37	0.53	78.	361.	717	20.37	0.31	47.	401.
538	21.33	0.38	293.	306.	598	20.42	0.25	151.	332.	658	20.12	0.15	223.	361.	718	20.57	0.21	244.	403.
539	20.41	0.16	70.	307.	599	19.15	0.13	209.	333.	659	21.17	0.18	34.	361.	719	21.08	0.25	245.	406.
540	19.89	0.17	183.	307.	600	20.32	0.13	277.	333.	660	16.46	0.07	88.	362.	720	18.92	0.22	315.	406.

Table 6 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	20.75	0.40	246.	410.	742	18.94	0.88	99.	433.	763	19.61	0.19	251.	464.	784	19.51	1.04	138.	490.
722	19.11	0.05	289.	412.	743	21.07	0.38	238.	434.	764	18.52	1.20	184.	464.	785	20.77	0.48	107.	490.
723	19.63	0.93	312.	413.	744	18.82	0.14	211.	435.	765	20.15	0.37	55.	465.	786	19.39	0.89	37.	491.
724	19.61	0.93	306.	413.	745	20.56	0.46	138.	436.	766	20.24	0.46	192.	465.	787	16.47	0.10	155.	491.
725	19.76	0.15	183.	414.	746	19.25	0.13	265.	437.	767	21.03	0.67	225.	467.	788	20.94	1.43	18.	493.
726	19.52	1.03	58.	417.	747	19.42	1.04	111.	439.	768	16.90	1.42	185.	468.	789	20.39	0.40	109.	493.
727	19.23	0.89	23.	420.	748	20.99	0.33	169.	442.	769	19.95	0.94	221.	469.	790	20.73	0.57	136.	494.
728	19.04	0.13	199.	421.	749	20.53	0.25	169.	446.	770	20.80	0.46	255.	471.	791	19.70	0.13	126.	495.
729	20.04	0.16	105.	421.	750	18.94	0.94	153.	447.	771	18.48	1.20	172.	472.	792	20.02	0.17	252.	495.
730	19.07	0.80	44.	421.	751	20.31	0.25	294.	448.	772	17.08	0.57	88.	477.	793	19.56	1.20	41.	497.
731	18.39	0.15	190.	422.	752	20.26	0.18	131.	450.	773	20.96	0.54	174.	477.	794	18.46	0.10	241.	497.
732	19.17	0.81	149.	424.	753	18.54	0.16	233.	451.	774	21.29	0.37	80.	477.	795	18.33	0.14	11^.	498.
733	20.35	0.21	281.	425.	754	19.82	1.13	174.	452.	775	19.59	0.19	292.	479.	796	19.24	0.39	139.	498.
734	19.44	0.04	259.	425.	755	19.48	1.17	210.	454.	776	17.89	0.05	284.	481.	797	19.05	0.83	51.	498.
735	20.12	0.67	200.	427.	756	18.77	0.21	30.	454.	777	18.57	0.16	197.	482.	798	19.44	0.85	32.	500.
736	19.98	0.33	187.	428.	757	19.41	0.16	239.	454.	778	19.40	1.05	173.	483.	799	21.22	0.27	252.	501.
737	20.59	0.16	246.	429.	758	20.97	0.54	175.	455.	779	16.45	1.51	230.	483.	800	21.10	0.24	131.	502.
738	19.78	1.13	243.	429.	759	20.41	0.41	208.	455.	780	21.31	0.30	291.	486.	801	20.19	1.19	252.	503.
739	19.24	0.60	104.	431.	760	19.77	0.27	291.	458.	781	18.49	0.14	236.	486.	802	17.37	1.69	120.	503.
740	19.68	0.22	84.	432.	761	20.87	0.15	54.	460.	782	20.64	0.20	18.	488.	803	19.09	0.11	49.	504.
741	19.89	1.04	133.	433.	762	19.75	0.08	295.	463.	783	19.08	0.88	88.	490.					

Table 7a : Magnitudes, Colors and Positions of Stars in NGC 1831.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.82	0.40	203.	10.	61	22.04	0.68	35.	52.	121	19.26	0.24	232.	79.	181	20.67	0.17	140.	102.
2	19.33	0.93	71.	12.	62	19.31	-0.01	122.	52.	122	19.44	0.14	307.	79.	182	18.85	0.07	113.	102.
3	20.42	0.07	176.	13.	63	20.72	0.32	28.	53.	123	18.57	0.89	148.	79.	183	20.47	0.19	48.	102.
4	20.56	0.40	23.	13.	64	21.12	0.20	254.	53.	124	20.18	0.06	49.	79.	184	20.83	0.12	160.	102.
5	19.73	0.11	162.	14.	65	19.16	0.78	103.	53.	125	21.07	0.26	256.	80.	185	21.15	0.51	30.	103.
6	21.29	0.37	155.	14.	66	20.51	0.17	38.	53.	126	16.92	1.67	246.	80.	186	22.41	0.29	27.	103.
7	20.04	0.15	274.	14.	67	18.95	0.10	150.	54.	127	20.44	-0.05	230.	81.	187	20.78	0.29	126.	103.
8	20.90	0.21	231.	16.	68	19.44	0.31	234.	54.	128	19.72	1.73	289.	81.	188	18.94	0.08	237.	103.
9	20.73	0.07	272.	16.	69	22.04	0.39	42.	54.	129	16.51	2.27	211.	81.	189	20.41	0.16	213.	104.
10	21.34	0.34	159.	17.	70	21.29	0.98	166.	54.	130	21.29	0.36	87.	81.	190	21.41	0.82	299.	104.
11	19.02	0.94	265.	18.	71	20.99	0.22	310.	55.	131	22.31	0.30	195.	82.	191	20.56	0.41	114.	105.
12	19.05	0.82	199.	18.	72	22.06	0.48	209.	56.	132	18.76	0.70	116.	83.	192	21.17	0.35	166.	105.
13	19.95	0.92	210.	20.	73	20.80	0.25	140.	57.	133	20.21	0.11	102.	84.	193	18.83	0.18	98.	106.
14	20.06	0.07	258.	22.	74	19.89	0.14	128.	57.	134	20.25	0.28	153.	84.	194	18.99	0.11	182.	106.
15	21.04	0.02	119.	22.	75	20.35	0.18	86.	58.	135	19.19	0.16	170.	84.	195	18.82	0.66	229.	106.
16	18.70	0.87	59.	23.	76	22.32	0.51	212.	58.	136	20.90	0.35	142.	85.	196	19.13	0.12	176.	107.
17	19.56	0.13	142.	24.	77	20.24	0.13	17.	59.	137	21.51	0.41	89.	85.	197	19.81	0.04	153.	107.
18	20.12	0.14	172.	24.	78	19.68	0.18	221.	59.	138	19.70	0.07	55.	85.	198	19.28	0.97	296.	107.
19	18.86	0.11	115.	24.	79	19.57	0.34	123.	60.	139	20.96	0.97	174.	86.	199	20.60	0.31	235.	107.
20	20.72	0.14	159.	24.	80	19.05	0.14	81.	60.	140	19.20	0.16	70.	86.	200	21.60	0.29	87.	108.
21	20.73	0.25	161.	28.	81	21.07	0.24	108.	61.	141	22.00	0.38	106.	86.	201	20.13	0.12	156.	108.
22	18.63	0.89	198.	29.	82	19.64	0.96	144.	61.	142	17.99	0.66	218.	86.	202	19.05	0.15	34.	109.
23	21.13	0.40	166.	30.	83	20.35	0.16	67.	62.	143	20.50	0.23	143.	87.	203	19.48	0.12	185.	109.
24	18.99	0.15	23.	30.	84	19.06	0.85	232.	62.	144	20.72	0.19	139.	87.	204	20.50	0.24	42.	109.
25	18.45	0.08	90.	31.	85	20.86	0.25	213.	62.	145	20.62	0.12	22.	87.	205	19.59	0.07	79.	110.
26	21.10	0.37	241.	31.	86	21.11	-0.02	178.	66.	146	21.18	0.33	190.	87.	206	21.10	0.20	17.	110.
27	17.17	1.08	186.	32.	87	20.64	0.13	253.	66.	147	19.71	0.96	225.	87.	207	17.54	0.82	252.	110.
28	20.90	0.39	126.	32.	88	20.77	0.26	97.	67.	148	21.51	0.49	131.	87.	208	19.23	0.21	287.	110.
29	20.36	0.12	205.	33.	89	18.50	1.01	185.	67.	149	20.80	0.13	285.	88.	209	19.34	0.10	160.	110.
30	19.26	0.09	177.	33.	90	21.00	0.37	238.	67.	150	20.17	0.21	177.	88.	210	19.91	0.20	119.	110.
31	20.29	0.16	228.	34.	91	16.92	1.28	280.	67.	151	19.66	0.12	81.	88.	211	20.37	0.20	202.	111.
32	19.12	0.19	183.	34.	92	21.38	0.34	113.	68.	152	19.75	0.05	239.	88.	212	19.99	0.25	237.	111.
33	19.22	0.09	232.	35.	93	18.25	0.16	173.	68.	153	20.40	0.14	260.	89.	213	19.90	0.12	212.	112.
34	20.37	0.13	51.	35.	94	21.23	0.31	92.	68.	154	19.98	0.14	121.	89.	214	19.62	0.11	97.	112.
35	20.54	0.21	162.	35.	95	18.88	0.87	199.	68.	155	20.51	0.17	114.	90.	215	20.84	0.33	175.	112.
36	18.86	0.09	149.	36.	96	18.91	0.84	277.	69.	156	18.67	0.09	162.	90.	216	20.84	0.26	186.	113.
37	21.72	0.24	294.	36.	97	20.81	0.33	248.	70.	157	20.89	0.22	153.	91.	217	19.81	0.10	130.	113.
38	19.18	0.07	300.	37.	98	19.39	1.05	121.	70.	158	19.53	0.06	256.	92.	218	20.14	0.26	120.	113.
39	19.00	0.08	56.	38.	99	19.54	0.19	274.	71.	159	21.20	0.59	224.	92.	219	21.57	0.31	21.	114.
40	20.55	0.19	169.	40.	100	18.19	0.47	289.	71.	160	17.92	1.09	184.	93.	220	19.51	0.18	85.	114.
41	18.35	0.81	133.	41.	101	19.61	0.25	90.	72.	161	21.35	0.23	178.	94.	221	19.70	0.09	238.	114.
42	21.09	0.19	200.	41.	102	21.29	0.32	182.	73.	162	20.92	0.22	140.	94.	222	20.69	0.33	138.	114.
43	20.93	0.26	163.	41.	103	21.47	0.27	151.	73.	163	21.93	0.59	153.	94.	223	18.91	0.20	210.	114.
44	20.63	0.18	292.	43.	104	20.78	0.11	154.	74.	164	18.57	0.88	199.	95.	224	20.52	0.55	298.	114.
45	19.06	0.06	154.	44.	105	18.63	0.89	115.	75.	165	20.51	0.05	52.	95.	225	17.84	0.45	96.	115.
46	20.82	0.50	21.	45.	106	20.59	0.32	266.	75.	166	19.98	0.13	80.	95.	226	18.49	0.88	227.	116.
47	19.52	0.04	302.	45.	107	20.91	1.13	229.	75.	167	18.84	0.78	196.	95.	227	21.56	0.40	197.	116.
48	20.40	0.16	51.	46.	108	20.08	0.16	211.	75.	168	20.97	0.44	298.	95.	228	22.20	0.04	301.	116.
49	20.74	0.14	139.	46.	109	20.49	0.28	246.	75.	169	19.42	0.12	228.	96.	229	18.37	0.93	100.	117.
50	20.81	0.21	153.	47.	110	21.01	0.32	128.	76.	170	20.78	0.09	91.	96.	230	18.52	1.05	150.	117.
51	20.63	0.51	124.	48.	111	20.85	0.18	313.	77.	171	21.12	0.20	109.	96.	231	19.59	0.12	162.	117.
52	20.78	0.19	261.	48.	112	20.89	0.38	119.	77.	172	19.00	0.80	54.	97.	232	21.20	0.34	140.	117.
53	20.26	0.09	265.	48.	113	20.70	0.54	132.	77.	173	18.99	0.91	207.	97.	233	20.73	0.37	231.	118.
54	19.42	0.26	201.	49.	114	18.21	1.06	71.	77.	174	19.90	0.26	214.	97.	234	20.52	0.22	143.	118.
55	18.43	0.80	137.	49.	115	20.74	0.19	92.	78.	175	19.65	0.13	259.	98.	235	19.32	0.05	274.	118.
56	18.93	0.13	307.	50.	116	19.87	0.06	226.	78.	176	21.32	0.40	165.	98.	236	19.76	0.13	26.	118.
57	20.09	0.24	167.	50.	117	19.89	0.11	185.	78.	177	19.78	0.16	63.	98.	237	18.59	0.11	127.	118.
58	16.43	0.56	231.	51.	118	19.60	0.08	176.	78.	178	20.22	0.38	206.	100.	238	21.30	0.35	86.	119.
59	20.30	0.00	126.	52.	119	21.63	0.28	58.	78.	179	21.11	0.16	237.	100.	239	21.35	0.35	135.	119.
60	18.66	0.86	49.	52.	120	21.02	0.27	194.	79.	180	21.67	0.22	61.	101.	240	18.38	0.90	249.	119.

Table 7a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.78	0.19	35.	119.	301	19.25	0.19	196.	139.	361	20.30	1.07	54.	162.	421	20.02	0.10	25.	183.
242	20.74	0.22	120.	120.	302	21.10	0.41	90.	140.	362	19.66	0.26	169.	162.	422	18.97	0.91	85.	183.
243	20.23	0.23	209.	121.	303	20.73	0.12	237.	140.	363	18.52	0.15	257.	162.	423	19.56	0.11	210.	183.
244	20.06	0.05	183.	121.	304	17.17	1.13	256.	140.	364	17.61	1.00	173.	162.	424	20.50	0.20	31.	183.
245	21.19	0.28	51.	122.	305	19.68	0.22	28.	141.	365	18.84	0.16	156.	163.	425	19.18	0.12	275.	183.
246	19.07	0.08	110.	122.	306	20.44	0.38	228.	141.	366	19.36	0.14	161.	163.	426	18.00	1.14	192.	184.
247	18.34	0.93	241.	122.	307	19.49	0.21	299.	142.	367	19.89	0.17	40.	164.	427	18.85	0.98	14.	185.
248	21.41	0.44	27.	123.	308	21.13	0.21	40.	142.	368	19.71	0.11	47.	164.	428	19.59	0.14	276.	185.
249	21.25	0.45	304.	123.	309	19.05	0.19	126.	142.	369	18.91	0.83	118.	165.	429	20.51	0.16	300.	187.
250	20.36	0.21	61.	124.	310	18.27	0.92	289.	143.	370	18.44	0.92	216.	165.	430	20.08	0.10	10.	187.
251	20.97	0.35	51.	124.	311	20.68	0.02	245.	143.	371	18.35	1.01	140.	166.	431	20.16	0.20	24.	187.
252	20.24	0.21	117.	124.	312	19.87	0.13	267.	144.	372	18.86	0.87	299.	166.	432	18.94	0.04	174.	187.
253	19.99	0.01	279.	125.	313	19.77	0.13	90.	145.	373	19.78	0.07	136.	167.	433	19.96	0.24	18.	188.
254	18.52	0.88	259.	126.	314	19.66	-0.08	127.	145.	374	17.72	0.52	175.	167.	434	18.24	0.08	159.	188.
255	18.68	0.89	67.	126.	315	18.36	0.89	292.	146.	375	19.79	0.12	261.	167.	435	19.10	0.01	255.	188.
256	20.97	0.17	301.	126.	316	20.64	0.38	230.	146.	376	20.25	0.17	46.	168.	436	19.32	0.07	133.	189.
257	18.80	0.09	111.	126.	317	19.37	0.14	149.	146.	377	19.02	0.14	54.	168.	437	17.85	0.34	251.	190.
258	19.69	0.16	82.	126.	318	20.10	0.18	68.	146.	378	18.60	0.10	308.	168.	438	18.41	0.82	108.	190.
259	21.10	0.44	40.	126.	319	20.15	0.20	39.	147.	379	20.31	0.07	37.	168.	439	19.47	0.14	234.	190.
260	21.96	0.73	295.	127.	320	20.31	0.11	70.	147.	380	18.83	0.14	163.	169.	440	18.44	0.90	97.	190.
261	20.27	0.10	249.	127.	321	18.84	0.74	204.	147.	381	20.11	0.10	290.	169.	441	17.90	0.79	36.	191.
262	20.18	0.17	101.	127.	322	18.56	0.11	155.	147.	382	20.03	0.16	33.	169.	442	18.78	1.11	188.	191.
263	19.40	0.11	177.	127.	323	19.76	0.18	23.	148.	383	19.90	0.13	35.	171.	443	19.08	0.75	138.	191.
264	20.18	0.29	125.	128.	324	20.46	0.26	49.	148.	384	19.84	0.10	199.	171.	444	18.35	0.41	150.	191.
265	20.82	0.16	284.	128.	325	18.75	0.75	254.	149.	385	20.78	0.36	303	171.	445	18.29	0.50	177.	192.
266	19.85	0.17	200.	129.	326	18.94	0.16	204.	150.	386	18.69	0.77	286.	172.	446	18.60	0.07	270.	193.
267	21.05	0.15	92.	129.	327	18.89	0.86	278.	151.	387	18.37	0.16	241.	172.	447	18.64	0.02	208.	193.
268	19.98	0.15	247.	129.	328	20.20	0.11	241.	151.	388	19.80	0.08	203.	172.	448	19.66	0.25	255.	193.
269	20.16	0.20	77.	129.	329	19.33	0.20	156.	151.	389	19.19	0.17	275.	172.	449	18.65	0.13	182.	194.
270	20.56	0.10	140.	129.	330	19.97	0.16	301.	151.	390	18.43	0.71	244.	173.	450	19.18	-0.20	161.	194.
271	20.64	0.12	217.	130.	331	20.80	0.33	73.	151.	391	20.01	0.07	13.	173.	451	18.07	0.65	212.	194.
272	18.26	0.91	169.	131.	332	18.81	0.92	228.	151.	392	19.01	0.17	175.	173.	452	18.34	0.82	205.	194.
273	21.66	0.34	135.	131.	333	19.36	0.16	216.	151.	393	17.71	0.10	128.	174.	453	19.22	0.02	134.	195.
274	20.63	0.14	235.	131.	334	19.16	1.16	118.	152.	394	17.94	0.55	115.	174.	454	19.17	0.92	26.	195.
275	19.32	0.08	126.	132.	335	18.47	0.85	209.	153.	395	19.41	0.01	206.	174.	455	21.35	0.21	277.	195.
276	18.83	0.91	194.	133.	336	18.53	0.67	173.	153.	396	19.28	0.16	163.	174.	456	18.81	0.19	126.	195.
277	19.11	0.12	199.	134.	337	17.95	0.76	130.	153.	397	19.21	0.11	122.	174.	457	18.93	0.14	252.	195.
278	19.17	0.92	148.	134.	338	18.18	0.97	149.	154.	398	18.61	0.21	136.	174.	458	17.89	1.03	34.	196.
279	20.02	-0.02	248.	134.	339	19.85	0.19	216.	154.	399	20.48	0.27	303.	174.	459	17.86	1.12	21.	196.
280	21.43	0.24	210.	134.	340	19.28	-0.09	132.	155.	400	18.72	0.19	142.	175.	460	19.17	0.01	128.	196.
281	20.05	0.19	99.	135.	341	21.21	0.12	234.	155.	401	16.56	1.65	96.	175.	461	18.36	0.10	114.	197.
282	20.92	0.27	70.	135.	342	18.81	0.12	225.	155.	402	18.40	0.61	169.	175.	462	18.30	0.83	152.	197.
283	20.49	0.21	59.	135.	343	18.57	0.61	177.	156.	403	19.31	0.13	102.	176.	463	18.27	0.01	165.	197.
284	20.24	0.17	214.	135.	344	20.50	0.27	268.	156.	404	19.50	0.10	185.	176.	464	20.11	0.12	134.	198.
285	22.20	0.47	56.	135.	345	18.44	0.09	221.	156.	405	19.59	0.06	177.	176.	465	18.64	0.9.	226.	198.
286	20.76	0.20	118.	135.	346	20.86	0.29	246.	156.	406	19.37	0.09	59.	177.	466	18.79	0.10	175.	199.
287	18.84	0.07	270.	136.	347	17.39	-0.03	123.	156.	407	18.33	0.80	242.	177.	467	17.63	0.93	106.	199.
288	20.90	0.50	76.	136.	348	20.32	0.11	38.	156.	408	19.68	0.16	144.	178.	468	19.06	0.15	80.	199.
289	19.17	0.09	280.	136.	349	21.02	0.23	43.	157.	409	19.31	0.14	121.	178.	469	18.89	0.86	84.	199.
290	20.43	0.21	239.	136.	350	18.24	0.97	79.	157.	410	18.40	0.08	205.	179.	470	18.69	0.93	274.	200.
291	18.78	0.16	88.	137.	351	19.37	0.05	125.	158.	411	18.82	1.00	170.	179.	471	19.31	0.09	308.	200.
292	19.97	0.15	146.	138.	352	19.00	0.22	210.	159.	412	19.94	0.06	84.	180.	472	19.40	0.01	111.	200.
293	20.13	0.08	248.	138.	353	21.15	0.74	299.	159.	413	20.61	0.28	211.	180.	473	19.23	0.02	201.	201.
294	21.48	-0.03	303.	138.	354	19.05	0.19	167.	159.	414	20.07	0.02	17.	180.	474	18.99	0.17	300.	201.
295	20.54	0.52	100.	138.	355	18.53	0.92	216.	159.	415	19.06	0.18	199.	180.	475	19.07	0.95	212.	201.
296	20.65	0.18	34.	138.	356	18.17	0.90	221.	160.	416	18.88	0.31	95.	180.	476	19.41	0.05	88.	201.
297	20.52	0.14	54.	139.	357	20.23	0.09	292.	161.	417	18.40	0.13	70.	180.	477	20.31	0.08	282.	201.
298	21.07	0.10	277.	139.	358	20.69	0.25	297.	161.	418	18.50	0.11	195.	181.	478	19.38	0.20	30.	201.
299	21.37	0.17	308.	139.	359	18.84	0.97	105.	162.	419	19.78	0.84	59.	182.	479	18.39	0.65	181.	201.
300	18.50	0.12	224.	139.	360	18.84	0.21	220.	162.	420	18.81	0.94	106.	182.	480	17.38	0.83	171.	201.

Table 7a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.12	0.09	76.	202.	541	19.02	0.12	231.	219.	601	19.35	0.11	90.	235.	661	18.62	0.20	300.	249.
482	18.67	0.66	147.	202.	542	18.63	0.12	174.	220.	602	18.91	0.36	201.	235.	662	18.10	0.72	147.	249.
483	18.37	0.61	152.	202.	543	17.69	0.46	170.	220.	603	20.53	0.17	25.	236.	663	19.90	0.09	249.	249.
484	20.15	0.14	297.	202.	544	18.67	0.23	65.	220.	604	18.33	0.30	158.	236.	664	18.25	-0.06	241.	250.
485	18.20	0.93	207.	202.	545	18.76	0.09	240.	220.	605	18.35	0.87	75.	237.	665	20.26	0.18	303.	250.
486	18.47	0.70	140.	203.	546	19.35	0.01	198.	221.	606	18.35	0.94	81.	237.	666	18.55	0.03	133.	250.
487	19.77	0.21	27.	203.	547	18.24	0.66	185.	221.	607	19.49	0.13	57.	237.	667	18.60	0.18	153.	250.
488	19.00	0.13	113.	203.	548	18.93	-0.03	123.	221.	608	19.56	0.17	135.	237.	668	20.40	0.11	293.	251.
489	17.94	1.02	233.	203.	549	19.49	0.23	102.	222.	609	18.83	0.34	204.	237.	669	19.53	-0.16	217.	251.
490	19.40	0.11	315.	204.	550	18.58	0.61	158.	222.	610	18.32	0.13	140.	237.	670	18.24	0.00	169.	251.
491	19.10	0.12	214.	205.	551	18.69	0.47	275.	222.	611	19.59	0.09	275.	238.	671	18.80	0.50	140.	251.
492	18.57	0.23	171.	205.	552	19.28	0.09	193.	222.	612	19.55	0.21	89.	238.	672	19.41	0.15	46.	251.
493	18.72	0.87	163.	205.	553	19.01	0.04	218.	223.	613	17.31	1.00	169.	239.	673	19.14	0.22	100.	252.
494	20.40	0.28	38.	205.	554	19.09	0.14	80.	223.	614	17.75	0.49	218.	239.	674	17.85	0.29	222.	252.
495	18.51	0.35	160.	205.	555	18.65	0.86	178.	223.	615	17.24	1.20	291.	239.	675	18.61	0.06	92.	252.
496	18.39	0.78	63.	205.	556	18.69	0.24	104.	224.	616	19.25	-0.07	126.	239.	676	19.32	0.21	176.	252.
497	17.99	0.75	203.	206.	557	15.84	1.59	127.	224.	617	18.11	0.47	115.	239.	677	20.84	0.25	17.	253.
498	17.79	1.18	231.	206.	558	18.32	1.09	169.	224.	618	17.58	0.47	167.	239.	678	18.82	0.81	11.	253.
499	18.82	0.07	140.	206.	559	18.35	0.87	221.	224.	619	18.90	0.24	286.	239.	679	18.33	0.86	117.	253.
500	20.09	0.13	24.	207.	560	18.59	0.11	240.	224.	620	18.49	0.26	182.	239.	680	17.88	0.38	134.	253.
501	21.92	0.38	5.	207.	561	18.30	0.65	228.	224.	621	18.77	0.07	200.	239.	681	18.75	0.57	195.	254.
502	17.81	0.31	103.	207.	562	20.23	-0.03	195.	225.	622	20.97	0.38	24.	239.	682	17.70	1.11	151.	254.
503	19.60	0.20	32.	207.	563	18.34	0.84	148.	225.	623	18.31	0.07	227.	239.	683	19.03	0.74	161.	255.
504	20.06	0.18	16.	207.	564	18.48	-0.12	155.	226.	624	19.90	0.04	98.	240.	684	20.28	0.08	21.	255.
505	19.48	0.02	190.	207.	565	17.40	1.14	273.	226.	625	19.75	0.20	297.	240.	685	18.42	0.26	199.	255.
506	18.95	0.04	60.	208.	566	18.52	-0.14	145.	226.	626	19.40	0.00	119.	240.	686	18.64	-0.06	182.	255.
507	20.59	0.23	286.	208.	567	20.79	0.31	41.	227.	627	18.70	0.50	129.	240.	687	19.05	0.14	61.	255.
508	19.00	0.25	176.	208.	568	18.51	0.55	190.	227.	628	18.59	0.89	212.	240.	688	19.01	0.16	29.	256.
509	19.07	0.94	63.	208.	569	18.93	0.61	192.	227.	629	18.43	0.13	157.	240.	689	18.71	0.62	98.	256.
510	18.39	0.70	137.	208.	570	19.98	0.13	13.	228.	630	18.88	0.15	179.	240.	690	16.96	0.74	164.	256.
511	18.62	0.08	200.	208.	571	19.29	0.16	113.	228.	631	18.43	0.58	173.	241.	691	18.94	0.16	92.	256.
512	19.11	0.09	227.	208.	572	18.49	0.12	180.	228.	632	18.33	0.74	80.	242.	692	18.98	0.04	221.	257.
513	21.11	0.28	8.	209.	573	17.82	1.27	136.	228.	633	18.70	0.60	273.	243.	693	18.78	0.16	44.	257.
514	18.75	-0.03	196.	209.	574	19.12	0.87	102.	228.	634	18.98	0.07	103.	243.	694	18.17	0.67	110.	257.
515	18.72	0.79	254.	209.	575	18.59	0.62	151.	229.	635	18.24	0.66	86.	243.	695	19.22	0.14	158.	258.
516	18.70	0.69	131.	209.	576	18.69	0.06	155.	229.	636	17.71	0.80	232.	243.	696	18.69	0.35	153.	258.
517	20.43	0.31	307.	210.	577	18.66	0.95	77.	229.	637	17.98	0.06	192.	244.	697	18.70	0.03	205.	258.
518	19.16	0.96	244.	211.	578	19.33	0.21	120.	229.	638	17.59	0.85	211.	244.	698	18.22	0.11	228.	258.
519	20.00	0.04	148.	211.	579	18.68	0.93	60.	229.	639	18.62	0.23	184.	244.	699	18.70	0.19	217.	258.
520	18.39	0.79	113.	211.	580	18.47	0.58	137.	230.	640	19.32	0.11	98.	245.	700	18.75	0.16	89.	258.
521	19.20	0.99	290.	212.	581	19.31	0.11	38.	230.	641	18.19	0.01	154.	245.	701	17.39	0.89	179.	258.
522	20.59	0.13	30.	213.	582	19.39	0.03	110.	231.	642	17.98	0.26	180.	245.	702	18.48	0.84	168.	259.
523	16.45	0.13	211.	214.	583	19.23	-0.04	208.	231.	643	19.01	0.09	76.	245.	703	18.54	0.39	141.	259.
524	19.28	0.10	164.	214.	584	17.98	1.36	183.	231.	644	19.20	0.13	248.	245.	704	19.11	0.23	234.	259.
525	17.81	0.59	157.	215.	585	18.26	0.81	221.	232.	645	18.45	0.74	84.	245.	705	18.35	0.99	62.	259.
526	18.48	0.52	39.	215.	586	17.69	0.10	175.	232.	646	19.29	0.13	273.	246.	706	18.58	0.35	189.	259.
527	18.65	0.66	141.	215.	587	18.96	0.03	157.	232.	647	17.38	1.01	141.	246.	707	18.62	1.11	100.	260.
528	18.26	0.37	74.	215.	588	17.42	0.67	304.	233.	648	18.27	0.14	196.	246.	708	20.17	0.18	304.	260.
529	18.96	0.14	126.	215.	589	19.26	0.23	187.	233.	649	19.94	0.03	18.	247.	709	17.41	0.16	198.	260.
530	18.53	0.92	297.	215.	590	19.26	-0.15	204.	233.	650	20.90	0.24	26.	247.	710	18.28	0.18	111.	260.
531	19.69	0.01	84.	216.	591	17.79	0.17	171.	233.	651	17.64	0.60	155.	247.	711	17.44	0.40	133.	260.
532	18.84	1.15	200.	216.	592	17.99	0.07	167.	234.	652	19.20	-0.04	168.	248.	712	18.66	0.63	213.	260.
533	18.49	0.38	189.	217.	593	17.14	0.79	238.	234.	653	18.57	0.13	110.	248.	713	18.21	0.70	209.	261.
534	17.14	0.82	72.	218.	594	16.60	0.69	146.	234.	654	18.87	0.06	48.	249.	714	18.26	0.06	203.	261.
535	19.04	0.15	81.	218.	595	18.67	0.54	125.	234.	655	20.60	0.12	28.	249.	715	19.29	0.14	31.	261.
536	18.63	0.12	157.	219.	596	19.58	0.04	221.	234.	656	18.76	0.77	187.	249.	716	18.75	0.88	59.	261.
537	19.07	0.19	112.	219.	597	19.17	0.26	110.	235.	657	19.31	0.21	50.	249.	717	18.39	0.39	152.	262.
538	18.33	0.12	132.	219.	598	18.14	-0.09	175.	235.	658	16.98	0.74	112.	249.	718	18.69	-0.01	218.	262.
539	19.39	0.02	134.	219.	599	19.29	0.05	225.	235.	659	18.92	0.94	205.	249.	719	19.31	0.03	261.	262.
540	20.19	0.02	256.	219.	600	18.93	0.88	193.	235.	660	17.77	0.00	190.	249.	720	19.83	0.08	294.	262.

Table 7a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	17.90	0.54	185.	263.	781	18.12	0.37	199.	277.	841	18.78	0.91	249.	291.	901	18.29	0.66	119.	307.
722	20.01	0.09	15.	263.	782	18.89	0.11	134.	277.	842	19.02	-0.06	208.	292.	902	19.50	0.65	174.	307.
723	18.92	0.72	222.	263.	783	18.33	0.33	100.	277.	843	18.23	0.07	257.	292.	903	19.25	0.09	255.	307.
724	18.39	0.18	144.	263.	784	18.19	0.60	164.	277.	844	19.14	0.10	292.	292.	904	19.21	0.15	109.	307.
725	18.89	0.09	281.	263.	785	19.15	0.05	222.	278.	845	19.41	0.19	65.	293.	905	18.61	0.61	162.	308.
726	19.73	0.00	38.	263.	786	19.66	0.12	253.	278.	846	19.18	0.21	191.	293.	906	19.22	-0.10	135.	308.
727	20.20	0.20	50.	264.	787	19.71	-0.05	262.	278.	847	19.18	0.05	129.	294.	907	19.23	0.03	210.	308.
728	18.25	0.93	108.	264.	788	19.11	0.09	32.	278.	848	18.75	0.10	121.	294.	908	19.30	0.18	34.	308.
729	17.58	0.20	131.	264.	789	19.19	0.05	295.	278.	849	17.84	1.10	26.	294.	909	18.27	0.48	151.	308.
730	18.08	1.18	139.	264.	790	18.18	0.34	105.	278.	850	19.42	0.85	235.	294.	910	19.16	-0.02	203.	308.
731	19.19	0.17	266.	264.	791	17.80	1.33	137.	278.	851	18.35	0.30	110.	294.	911	19.60	0.21	292.	309.
732	18.81	0.71	116.	264.	792	18.60	0.17	61.	279.	852	18.98	0.12	226.	294.	912	19.06	0.14	90.	309.
733	18.26	0.71	311.	264.	793	17.21	0.48	212.	279.	853	20.30	0.14	249.	295.	913	18.08	0.10	115.	309.
734	19.26	0.83	288.	265.	794	19.95	0.06	24.	279.	854	19.11	1.23	100.	295.	914	18.78	0.12	231.	309.
735	18.27	0.02	178.	265.	795	17.74	-0.07	147.	279.	855	19.52	0.06	71.	295.	915	20.00	-0.08	132.	309.
736	20.18	0.19	296.	265.	796	18.25	0.98	131.	280.	856	18.46	-0.09	196.	296.	916	18.67	0.06	195.	309.
737	19.19	0.94	26.	266.	797	18.13	0.53	142.	280.	857	18.89	0.14	285.	296.	917	18.76	0.83	156.	310.
738	17.93	1.17	151.	266.	798	18.08	-0.14	163.	280.	858	19.59	0.08	292.	296.	918	20.25	0.16	28.	310.
739	18.87	0.00	181.	267.	799	19.38	0.27	238.	280.	859	18.45	0.29	146.	296.	919	19.99	0.16	25.	310.
740	18.00	0.36	102.	267.	800	18.39	0.15	171.	281.	860	18.96	0.11	163.	296.	920	18.55	1.00	239.	310.
741	17.88	0.77	142.	267	801	18.04	0.09	119.	281.	861	17.96	0.13	159.	296.	921	19.94	0.25	250.	311.
742	18.00	0.47	171.	267.	802	18.34	0.80	215.	282.	862	19.15	0.73	192.	297.	922	19.01	0.85	142.	311.
743	18.62	0.74	279.	267.	803	18.46	0.40	176.	282.	863	19.11	0.02	223.	297.	923	18.50	0.45	175.	311.
744	18.54	0.93	23.	268.	804	17.23	1.09	151.	282.	864	18.11	1.23	138.	297.	924	18.93	0.07	162.	311.
745	19.29	0.10	36.	268.	805	17.66	1.08	179.	282.	865	19.00	1.66	125.	298.	925	18.86	0.14	295.	311.
746	19.12	0.17	95.	269.	806	18.97	0.09	289.	283.	866	19.74	0.25	220.	298.	926	19.88	0.17	186.	311.
747	20.00	0.09	18.	269.	807	20.13	-0.04	226.	283.	867	18.29	0.83	176.	298.	927	18.06	0.67	58.	312.
748	18.39	0.21	140.	269.	808	18.11	0.78	139.	283.	868	18.17	0.60	198.	298.	928	18.27	0.11	100.	313.
749	19.95	0.13	260.	269.	809	17.70	0.23	183.	283.	869	20.31	0.09	12.	298.	929	19.53	0.20	30.	313.
750	21.29	0.42	12.	270.	810	18.65	0.32	77.	283.	870	19.49	0.25	96.	299.	930	18.63	0.30	211.	313.
751	19.66	0.13	245.	270.	811	18.24	0.28	186.	283.	871	18.83	0.06	256.	299.	931	19.70	0.30	259.	314.
752	19.74	0.21	112.	270.	812	18.53	0.89	264.	284.	872	19.58	0.26	69.	300.	932	19.08	0.11	233.	314.
753	18.54	0.18	192.	270.	813	18.35	0.96	249.	284.	873	19.08	0.16	236.	300.	933	18.52	0.17	270.	314.
754	19.70	0.06	296.	270.	814	18.29	1.01	88.	284.	874	21.03	0.28	288.	300.	934	18.98	0.49	208.	314.
755	18.88	0.18	257.	270.	815	19.36	0.20	274.	284.	875	19.25	0.22	145.	300.	935	18.09	0.22	164.	314.
756	17.67	0.89	271.	271.	816	16.87	4.24	235.	285.	876	18.16	0.02	47.	300.	936	20.77	0.48	24.	315.
757	18.81	0.27	106.	271.	817	18.51	0.06	81.	285.	877	19.73	0.98	172.	300.	937	20.20	0.13	93.	315.
758	19.48	0.24	298.	271.	818	20.33	0.10	277.	286.	878	19.08	0.11	304.	301.	938	19.83	0.16	287.	315.
759	17.86	-0.19	165.	271.	819	18.50	0.57	107.	286.	879	20.35	0.34	284.	301.	939	18.23	0.50	169.	315.
760	17.84	0.04	173.	272.	820	19.15	0.94	196.	286.	880	18.17	0.13	183.	301.	940	18.92	0.59	262.	315.
761	18.09	0.73	94.	272.	821	20.15	0.93	19.	286.	881	19.65	0.09	294.	301.	941	19.22	0.09	183.	315.
762	19.02	0.16	32.	272.	822	18.94	0.05	78.	286.	882	18.47	0.98	214.	301.	942	19.30	0.15	239.	316.
763	17.64	0.95	187.	273.	823	18.18	0.67	93.	287.	883	17.90	1.08	124.	301.	943	18.03	0.73	141.	316.
764	18.57	0.19	201.	273.	824	18.22	0.45	152.	287.	884	20.64	0.12	16.	301.	944	21.53	0.46	284.	316.
765	18.55	-0.03	210.	273.	825	18.90	0.70	146.	288.	885	18.48	0.86	86.	301.	945	21.32	0.37	279.	316.
766	18.86	0.67	216.	273.	826	20.24	0.24	296.	288.	886	20.02	0.06	66.	302.	946	18.72	0.81	177.	316.
767	18.16	0.85	222.	273.	827	18.17	0.02	156.	288.	887	20.75	0.08	311.	302.	947	17.94	0.19	198.	316.
768	16.90	1.50	170.	274.	828	18.59	0.56	165.	288.	888	17.97	0.56	40.	302.	948	18.31	1.53	192.	317.
769	19.50	0.11	61.	274.	829	19.13	0.26	137.	288.	889	18.73	0.77	177.	303.	949	20.03	0.22	86.	317.
770	18.53	0.03	153.	274.	830	15.89	1.70	216.	289.	890	19.50	0.05	245.	303.	950	18.89	0.97	75.	317.
771	18.43	0.83	246.	275.	831	18.55	0.04	237.	289.	891	18.49	0.17	183.	304.	951	18.68	0.59	153.	318.
772	19.19	0.13	267.	275.	832	18.60	0.08	112.	289.	892	16.83	1.18	75.	304.	952	19.30	0.05	114.	318.
773	19.14	0.17	33.	275.	833	19.01	0.06	90.	289.	893	18.60	0.07	146.	305.	953	18.57	0.25	132.	318.
774	18.41	0.69	142.	275.	834	18.89	-0.03	125.	289.	894	20.20	0.31	298.	305.	954	18.87	0.04	182.	318.
775	18.44	0.88	65.	276.	835	19.86	0.72	205.	289.	895	20.20	0.26	285.	305.	955	18.75	-0.03	159.	320.
776	18.31	0.63	106.	276.	836	18.43	0.49	194.	289.	896	19.38	0.09	127.	305.	956	18.81	-0.17	179.	320.
777	18.03	0.16	185.	277.	837	18.31	1.30	133.	290.	897	19.08	0.13	237.	306.	957	20.46	0.16	278.	320.
778	20.46	0.17	21.	277.	838	18.56	0.00	153.	291.	898	19.31	-0.01	195.	306.	958	18.46	0.51	137.	320.
779	18.22	-0.08	146.	277.	839	18.15	0.13	163.	291.	899	19.21	0.05	232.	306.	959	18.68	0.03	114.	320.
780	18.64	0.05	235.	277.	840	18.04	0.76	93.	291.	900	17.88	0.05	123.	306.	960	18.62	0.05	156.	321.

Table 7a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	18.48	0.12	132.	322.	1021	19.63	0.12	42.	341.	1081	19.19	0.08	188.	362.	1141	19.65	0.21	231.	383.
962	18.06	0.79	103.	322.	1022	18.36	0.16	142.	341.	1082	19.46	1.37	242.	362.	1142	18.87	0.10	95.	384.
963	18.71	0.12	241.	323.	1023	18.50	0.12	116.	341.	1083	18.51	0.71	108.	362.	1143	19.40	0.18	258.	384.
964	19.53	0.13	84.	323.	1024	20.69	0.24	269.	342.	1084	19.18	0.08	229.	362.	1144	18.87	0.18	296.	384.
965	19.93	0.19	44.	323.	1025	20.35	0.20	20.	343.	1085	19.75	0.08	304.	362.	1145	18.24	0.75	106.	384.
966	18.36	0.01	161.	324.	1026	20.59	0.25	281.	344.	1086	19.39	0.11	71.	363.	1146	19.18	0.13	155.	385.
967	21.93	0.49	280.	324.	1027	20.99	1.03	35.	344.	1087	19.02	0.07	24.	363.	1147	19.65	0.05	142.	385.
968	19.05	0.04	131.	324.	1028	18.90	0.07	200.	345.	1088	20.68	0.54	260.	363.	1148	19.60	0.15	82.	387.
969	18.57	0.66	206.	324.	1029	21.22	0.28	275.	345.	1089	18.50	0.94	211.	364.	1149	19.07	0.21	103.	387.
970	18.55	0.11	179.	325.	1030	19.27	0.10	259.	345.	1090	18.45	0.92	280.	364.	1150	18.68	0.12	26.	387.
971	20.16	0.10	308.	325.	1031	18.73	0.14	186.	346.	1091	17.65	0.96	10.	365.	1151	19.70	0.04	133.	387.
972	19.17	-0.07	200.	325.	1032	19.23	0.16	121.	346.	1092	18.82	1.08	79.	365.	1152	20.21	1.00	212.	388.
973	20.56	0.23	304.	326.	1033	18.90	0.10	161.	346.	1093	18.85	0.19	143.	365.	1153	19.33	0.12	21.	388.
974	19.34	0.25	118.	326.	1034	19.08	0.88	136.	347.	1094	20.56	0.28	49.	365.	1154	19.40	0.18	110.	389.
975	19.90	0.17	46.	327.	1035	20.42	0.16	15.	348.	1095	19.56	0.13	206.	365.	1155	20.32	0.21	254.	389.
976	19.59	0.13	192.	327.	1036	19.15	0.13	179.	348.	1096	18.93	0.73	126.	365.	1156	18.76	-0.05	101.	389.
977	18.90	0.14	85.	327.	1037	20.51	0.26	53.	348.	1097	20.47	0.28	128.	366.	1157	19.69	0.06	285.	389.
978	18.94	0.15	237.	327.	1038	19.26	0.27	173.	348.	1098	19.33	0.06	79.	367.	1158	18.55	0.68	154.	389.
979	18.90	0.12	127.	328.	1039	17.90	0.54	155.	349.	1099	19.14	0.01	230.	367.	1159	19.28	0.28	118.	390.
980	19.42	0.09	175.	328.	1040	18.14	0.62	134.	349.	1100	19.73	1.22	53.	367.	1160	18.44	0.09	148.	390.
981	20.32	0.21	295.	328.	1041	18.92	0.42	195.	349.	1101	18.59	0.42	182.	368.	1161	18.47	0.04	136.	390.
982	18.46	0.39	134.	329.	1042	18.97	0.87	79.	349.	1102	19.30	0.20	135.	368.	1162	20.71	0.30	308.	391.
983	19.47	0.01	117.	329.	1043	18.55	0.03	238.	350.	1103	19.47	0.17	94.	368.	1163	18.46	1.00	168.	391.
984	21.57	0.28	313.	330.	1044	19.19	1.00	33.	350.	1104	19.31	0.20	67.	368.	1164	17.51	0.83	235.	391.
985	21.21	0.34	269.	330.	1045	19.53	0.23	274.	350.	1105	18.79	0.12	153.	368.	1165	18.52	0.91	17.	392.
986	18.83	0.23	246.	330.	1046	20.59	0.12	307.	351.	1106	20.55	0.39	299.	370.	1166	19.99	0.15	64.	392.
987	18.64	0.22	184.	330.	1047	20.59	0.09	48.	351.	1107	19.52	0.06	184.	371.	1167	20.77	0.29	30.	392.
988	20.78	0.17	190.	330.	1048	20.27	0.12	312.	352.	1108	19.04	1.06	124.	372.	1168	18.38	1.10	138.	392.
989	19.27	0.20	33.	330.	1049	20.36	0.26	77.	352.	1109	21.13	0.45	91.	372.	1169	19.86	0.07	180.	392.
990	18.90	0.71	75.	330.	1050	21.38	0.16	292.	353.	1110	18.63	0.12	295.	372.	1170	21.41	0.41	57.	393.
991	18.11	0.56	160.	330.	1051	19.04	0.06	208.	353.	1111	18.68	0.76	163.	373.	1171	18.51	1.02	161.	393.
992	18.73	0.10	70.	331.	1052	18.74	0.08	244.	353.	1112	19.25	0.10	210.	373.	1172	19.84	0.10	275.	394.
993	19.19	1.18	146.	331.	1053	19.26	0.07	93.	353.	1113	20.64	0.31	43.	373.	1173	19.39	0.09	142.	394.
994	18.30	0.01	136.	331.	1054	18.52	0.17	29.	353.	1114	19.04	0.13	103.	373.	1174	19.63	0.17	44.	394.
995	17.97	0.91	109.	331.	1055	18.74	0.19	134.	354.	1115	19.12	-0.05	125.	373.	1175	18.84	0.92	115.	394.
996	19.62	0.13	10.	331.	1056	20.06	0.15	40.	354.	1116	19.80	0.14	63.	374.	1176	20.42	0.24	36.	394.
997	19.75	0.19	121.	332.	1057	19.45	0.18	189.	354.	1117	18.76	0.98	203.	374.	1177	20.61	0.25	85.	395.
998	18.65	0.76	230.	332.	1058	20.59	0.24	50.	354.	1118	20.41	0.16	308.	374.	1178	20.12	0.19	73.	396.
999	19.46	0.11	91.	332.	1059	20.63	0.38	52.	355.	1119	19.40	0.12	37.	374.	1179	19.66	0.34	161.	396.
1000	20.43	0.27	274.	332.	1060	18.86	0.70	150.	355.	1120	21.17	0.15	234.	375.	1180	21.01	0.35	94.	396.
1001	19.57	0.21	160.	334.	1061	18.32	0.90	275.	355.	1121	19.01	0.15	57.	376.	1181	20.50	0.14	178.	397.
1002	19.56	0.15	124.	334.	1062	20.93	0.33	22.	355.	1122	18.91	0.07	179.	376.	1182	18.94	0.83	218.	397.
1003	19.10	-0.05	139.	334.	1063	19.63	0.15	100.	356.	1123	19.00	0.12	11.	376.	1183	20.56	0.31	77.	398.
1004	17.92	0.61	72.	335.	1064	18.97	0.75	127.	356.	1124	18.97	0.16	154.	377.	1184	21.02	0.31	264.	398.
1005	18.27	0.76	84.	335.	1065	20.61	0.21	64.	356.	1125	21.01	0.30	43.	377.	1185	20.14	0.10	86.	398.
1006	18.99	0.08	305.	335.	1066	20.34	0.22	284.	357.	1126	20.19	0.13	222.	377.	1186	16.04	1.60	197.	398.
1007	19.65	0.09	131.	335.	1067	19.14	0.79	218.	357.	1127	19.71	0.18	149.	378.	1187	20.17	0.20	313.	398.
1008	19.09	1.00	143.	335.	1068	19.54	0.23	210.	357.	1128	19.28	1.01	163.	378.	1188	19.84	0.14	248.	399.
1009	19.38	0.06	175.	336.	1069	18.83	0.13	288.	357.	1129	20.61	0.30	236.	378.	1189	19.78	0.14	126.	399.
1010	18.01	0.76	28.	337.	1070	18.61	0.58	149.	357.	1130	18.78	0.77	227.	378.	1190	18.35	0.88	115.	399.
1011	20.76	0.98	273.	337.	1071	19.39	0.20	199.	358.	1131	20.15	0.07	220.	378.	1191	19.86	0.15	71.	399.
1012	18.77	0.11	151.	337.	1072	18.67	0.13	230.	358.	1132	18.82	0.72	254.	379.	1192	21.03	0.31	48.	399.
1013	18.42	0.40	129.	337.	1073	19.08	0.16	135.	358.	1133	19.75	0.01	94.	379.	1193	20.77	0.24	237.	399.
1014	19.18	0.99	105.	337.	1074	20.84	0.49	261.	359.	1134	18.97	0.14	105.	379.	1194	21.02	-0.08	211.	400.
1015	18.28	0.92	50.	339.	1075	18.99	0.13	55.	360.	1135	19.66	0.08	175.	379.	1195	19.11	0.90	90.	401.
1016	18.41	0.13	185.	339.	1076	18.96	0.19	277.	360.	1136	19.05	0.08	244.	381.	1196	19.06	0.13	174.	401.
1017	18.46	0.13	200.	340.	1077	20.67	0.12	301.	360.	1137	19.57	0.06	302.	381.	1197	19.23	0.13	119.	402.
1018	19.00	0.10	285.	340.	1078	19.59	0.05	245.	360.	1138	18.38	0.92	45.	382.	1198	18.28	0.16	188.	402.
1019	20.51	0.16	307.	341.	1079	19.00	0.23	23.	360.	1139	18.69	0.44	257.	382.	1199	19.29	0.66	264.	402.
1020	18.35	0.09	175.	341.	1080	18.47	0.47	114.	362.	1140	19.51	0.20	166.	383.	1200	20.33	0.94	51.	403.

Table 7a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	20.96	0.25	254.	403.	1256	18.99	0.13	206.	418.	1311	19.98	0.21	102.	445.	1366	20.91	0.28	181.	473.
1202	19.40	0.13	73.	403.	1257	19.55	0.24	142.	418.	1312	20.71	0.06	200.	445.	1367	19.45	0.07	223.	474.
1203	20.59	0.18	43.	404.	1258	20.56	0.19	162.	418.	1313	21.53	0.10	254.	446.	1368	19.85	0.16	162.	475.
1204	19.25	0.16	208.	404.	1259	20.64	0.50	111.	418.	1314	20.29	0.13	204.	446.	1369	19.05	0.10	308.	475.
1205	18.83	0.09	170.	404.	1260	21.18	0.30	92.	419.	1315	19.32	0.18	44.	446.	1370	20.44	0.16	286.	475.
1206	19.00	0.38	192.	404.	1261	19.07	0.16	237.	419.	1316	20.08	0.13	250.	447.	1371	19.68	0.18	219.	476.
1207	20.78	0.39	98.	404.	1262	20.39	0.17	88.	419.	1317	20.76	0.21	86.	447.	1372	18.28	0.93	49.	477.
1208	21.52	0.00	32.	404.	1263	20.68	0.23	170.	419.	1318	20.63	0.30	67.	448.	1373	20.66	0.09	141.	477.
1209	20.18	0.11	276.	404.	1264	19.63	0.08	199.	419.	1319	20.01	0.12	191.	448.	1374	19.37	0.15	41.	479.
1210	19.57	0.13	144.	405.	1265	19.76	0.16	44.	420.	1320	20.93	0.18	283.	449.	1375	21.02	0.27	236.	479.
1211	19.38	0.15	52.	405.	1266	19.40	0.12	274.	421.	1321	20.71	0.23	109.	449.	1376	20.58	0.13	242.	479.
1212	19.01	0.22	84.	405.	1267	21.37	0.43	174.	422.	1322	20.10	0.06	160.	450.	1377	18.72	0.89	215.	479.
1213	18.69	0.12	201.	406.	1268	19.08	0.06	239.	422.	1323	20.25	0.24	56.	450.	1378	20.74	0.14	254.	481.
1214	19.64	0.13	211.	406.	1269	20.01	0.10	130.	423.	1324	21.67	0.36	140.	451.	1379	18.55	0.06	281.	482.
1215	19.65	0.17	132.	407.	1270	20.62	0.07	110.	423.	1325	20.79	0.17	99.	452.	1380	19.72	0.14	181.	482.
1216	20.69	0.35	44.	407.	1271	20.37	0.20	160.	423.	1326	21.22	0.36	230.	452.	1381	21.27	0.92	40.	483.
1217	20.69	0.36	261.	407.	1272	18.80	0.16	63.	425.	1327	20.52	0.22	149.	452.	1382	21.86	0.47	143.	483.
1218	18.55	0.79	298.	407.	1273	20.56	0.16	257.	425.	1328	19.03	0.22	199.	452.	1383	21.94	0.49	159.	485.
1219	20.84	0.44	137.	407.	1274	19.68	0.33	43.	425.	1329	20.89	0.20	208.	452.	1384	20.00	-0.03	26.	485.
1220	20.95	0.30	292.	407.	1275	19.41	0.12	34.	425.	1330	19.71	0.14	166.	453.	1385	20.70	0.18	257.	485.
1221	20.73	0.37	252.	407.	1276	19.61	0.07	218.	425.	1331	18.93	0.87	203.	453.	1386	21.03	0.30	155.	487.
1222	18.97	0.15	303.	408.	1277	21.27	0.04	118.	426.	1332	20.80	0.14	290.	454.	1387	20.09	0.29	144.	487.
1223	21.08	0.41	159.	408.	1278	20.93	0.37	11.	426.	1333	20.80	0.12	279.	454.	1388	19.85	0.22	27.	488.
1224	19.40	0.12	59.	408.	1279	21.35	0.38	180.	426.	1334	20.63	0.20	139.	455.	1389	20.38	0.21	172.	488.
1225	20.07	0.15	166.	408.	1280	19.74	0.04	110.	427.	1335	21.78	-0.39	239.	455.	1390	21.16	0.09	142.	489.
1226	21.88	0.20	21.	409.	1281	20.49	0.18	115.	428.	1336	19.91	0.10	162.	457.	1391	19.25	0.13	82.	489.
1227	18.67	0.13	238.	409.	1282	19.28	0.15	192.	429.	1337	18.22	0.90	214.	458.	1392	18.26	0.59	76.	491.
1228	20.66	0.39	18.	409.	1283	18.40	0.06	250.	429.	1338	16.88	0.04	110.	458.	1393	21.05	0.45	113.	492.
1229	20.36	0.34	306.	409.	1284	20.30	0.03	162.	429.	1339	19.18	-0.05	122.	459.	1394	22.24	0.38	108.	492.
1230	18.60	0.11	274.	410.	1285	20.27	0.25	54.	429.	1340	19.22	0.12	117.	460.	1395	21.16	0.40	63.	493.
1231	20.45	0.12	248.	410.	1286	19.56	0.16	181.	430.	1341	18.00	-0.08	29.	460.	1396	20.10	0.39	54.	494.
1232	18.74	0.12	105.	411.	1287	19.06	0.16	109.	430.	1342	19.09	1.15	219.	461.	1397	19.40	0.02	207.	495.
1233	21.07	0.23	116.	411.	1288	19.97	0.25	77.	431.	1343	20.67	0.31	103.	461.	1398	20.26	0.13	252.	495.
1234	19.75	0.14	63.	412.	1289	20.74	0.25	237.	431.	1344	19.21	0.08	110.	462.	1399	20.20	0.21	80.	496.
1235	20.01	0.18	231.	412.	1290	21.04	0.28	229.	431.	1345	19.29	0.87	157.	463.	1400	21.61	0.38	113.	496.
1236	19.86	0.14	219.	413.	1291	20.99	0.18	156.	432.	1346	18.42	0.11	164.	463.	1401	19.63	0.10	270.	496.
1237	20.25	-0.04	243.	413.	1292	20.70	1.18	298.	432.	1347	17.09	1.00	236.	463.	1402	19.51	0.13	152.	496.
1238	20.84	0.46	44.	413.	1293	20.42	0.14	254.	434.	1348	20.48	0.30	174.	464.	1403	21.17	0.25	256.	496.
1239	20.27	0.09	226.	414.	1294	19.62	0.06	289.	435.	1349	19.90	0.27	95.	464.	1404	19.44	0.13	170.	498.
1240	18.16	0.85	32.	414.	1295	19.95	0.16	172.	435.	1350	20.29	0.17	187.	465.	1405	21.01	0.31	124.	499.
1241	20.27	0.11	223.	414.	1296	21.50	0.40	235.	436.	1351	21.11	-0.10	229.	466.	1406	19.25	0.10	210.	500.
1242	18.55	0.77	140.	414.	1297	19.25	0.15	253.	437.	1352	16.45	1.72	246.	466.	1407	20.20	0.17	165.	500.
1243	20.03	0.16	236.	415.	1298	20.87	1.04	191.	437.	1353	19.60	0.13	144.	466.	1408	19.03	0.26	133.	501.
1244	21.60	0.30	18.	415.	1299	20.22	0.15	142.	437.	1354	20.34	0.10	72.	467.	1409	18.89	0.21	304.	501.
1245	21.19	0.28	301.	415.	1300	20.62	0.23	123.	438.	1355	20.07	0.11	45.	468.	1410	20.19	0.18	292.	502.
1246	20.13	0.10	59.	415.	1301	19.87	0.15	63.	438.	1356	18.82	0.14	146.	469.	1411	21.66	-0.31	246.	502.
1247	20.81	0.34	85.	415.	1302	18.53	0.93	108.	439.	1357	20.21	0.09	181.	469.	1412	19.53	0.16	123.	502.
1248	19.21	0.28	137.	415.	1303	20.62	0.17	291.	440.	1358	21.14	0.43	67.	470.	1413	18.93	0.14	50.	504.
1249	18.65	0.89	147.	415.	1304	19.34	0.89	141.	440.	1359	19.70	0.05	41.	471.	1414	20.28	0.09	56.	504.
1250	20.33	0.15	99.	416.	1305	21.20	0.26	158.	443.	1360	19.43	0.20	11.	471.	1415	20.67	0.13	159.	505.
1251	20.79	0.25	155.	416.	1306	20.22	0.32	181.	443.	1361	19.32	0.09	31.	472.	1416	19.76	1.21	147.	508
1252	19.60	0.12	260.	417.	1307	20.86	0.53	139.	444.	1362	19.35	0.87	152.	472.	1417	20.19	0.18	49.	508.
1253	20.40	0.34	255.	417.	1308	19.79	0.07	236.	444.	1363	20.02	0.18	99.	472.					
1254	19.36	0.08	243.	417.	1309	20.86	0.22	294.	445.	1364	18.66	0.87	200.	473.					
1255	19.72	0.15	131.	417.	1310	19.14	0.14	98.	445.	1365	18.98	1.06	107.	473.					

Table 7b : Magnitudes, Colors and Positions of Stars in the field near NGC 1831.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	19.41	0.84	966	20	61	19.69	0.25	228	51	121	20.64	0.90	203	77	181	21.31	0.49	779	125
2	21.06	0.67	962	16	62	20.39	0.20	218	55	122	19.16	0.01	858	77	182	21.40	0.30	770	133
3	20.66	0.16	316	22	63	20.94	0.47	231	60	123	19.27	0.20	342	78	183	20.80	0.34	771	140
4	20.87	0.18	349	21	64	19.41	0.68	236	68	124	13.20	1.30	398	96	184	20.47	0.55	333	126
5	20.19	0.17	357	26	65	20.70	0.23	262	41	125	17.67	1.55	407	94	185	20.08	0.96	74	127
6	21.34	1.03	350	16	66	20.13	0.06	253	45	126	18.37	0.03	417	105	186	20.32	0.22	357	131
7	20.40	0.02	484	21	67	21.44	-0.44	256	55	127	19.85	0.14	380	115	187	20.04	0.13	353	142
8	20.87	-0.09	485	15	68	20.67	0.26	627	42	128	20.08	0.48	375	115	188	21.45	0.39	360	146
9	19.03	0.04	680	23	69	20.75	0.18	982	43	129	17.53	0.85	408	105	189	19.51	0.92	641	132
10	19.52	0.08	751	23	70	18.32	0.06	541	46	130	20.57	0.34	616	82	190	19.58	0.03	602	134
11	20.26	0.22	759	24	71	21.34	0.94	552	49	131	20.91	0.11	135	83	191	20.77	0.26	895	135
12	21.39	0.28	760	31	72	20.23	0.18	547	53	132	19.76	0.17	557	34	192	20.69	0.55	953	135
13	20.80	0.21	756	14	73	18.31	1.16	776	46	133	20.56	0.23	829	87	193	20.28	0.12	155	137
14	19.57	0.09	767	29	74	20.14	0.18	361	52	134	20.46	0.33	201	90	194	19.50	0.82	160	144
15	19.86	0.86	765	23	75	20.90	0.18	359	58	135	20.66	0.69	202	96	195	20.29	0.11	619	138
16	19.79	0.05	774	18	76	20.45	0.34	349	55	136	18.39	1.10	206	104	196	20.34	0.10	294	140
17	19.86	0.39	298	23	77	20.41	1.18	374	55	137	18.54	0.07	208	115	197	19.81	0.04	456	141
18	21.53	0.37	305	27	78	20.23	0.19	637	54	138	19.56	0.03	588	91	198	20.41	0.21	572	143
19	20.73	0.23	540	25	79	19.96	0.17	627	58	139	19.65	0.26	952	90	199	21.07	0.42	579	148
20	19.12	1.66	918	26	80	20.85	0.34	882	54	140	20.16	0.02	544	94	200	20.82	0.93	116	146
21	20.99	0.27	929	28	81	19.62	0.10	872	58	141	20.55	0.39	475	94	201	19.24	1.04	763	152
22	20.50	0.26	176	5	82	19.13	0.85	881	61	142	21.03	0.53	477	101	202	18.94	0.83	525	154
23	21.27	0.12	180	28	83	19.03	1.12	889	62	143	20.05	0.57	471	104	203	18.42	1.04	514	160
24	20.49	-0.28	255	27	84	20.94	0.16	522	55	144	19.52	0.00	818	95	204	20.79	0.21	524	166
25	18.59	1.21	860	26	85	19.01	0.08	520	68	145	20.19	0.09	155	96	205	19.75	0.15	502	155
26	21.58	0.47	855	36	86	19.23	0.03	510	73	146	20.81	0.48	939	96	206	19.92	0.02	136	156
27	20.67	0.18	848	38	87	18.44	0.99	521	95	147	20.59	0.28	932	96	207	19.83	0.05	810	157
28	18.36	1.04	893	27	88	18.77	0.12	515	95	148	20.37	0.89	854	96	208	18.37	0.04	887	157
29	20.67	0.40	894	38	89	20.37	0.00	514	64	149	19.06	0.93	304	98	209	20.97	0.16	876	164
30	20.76	0.57	899	27	90	18.60	0.89	520	76	150	21.45	0.38	307	107	210	18.30	1.09	891	164
31	18.07	0.91	93	28	91	18.50	1.01	523	78	151	17.52	1.18	972	103	211	20.34	0.27	870	162
32	19.72	-0.23	94	42	92	19.39	0.40	521	92	152	19.98	0.15	983	103	212	20.40	0.46	883	176
33	18.96	0.84	437	28	93	20.91	0.41	586	60	153	19.47	0.63	990	110	213	20.41	0.28	845	159
34	21.12	0.45	428	36	94	18.33	0.86	576	60	154	20.87	0.54	975	118	214	20.64	0.17	600	163
35	18.68	0.87	158	30	95	18.98	1.09	579	74	155	19.82	1.57	700	105	215	18.44	0.84	603	171
36	20.86	0.46	147	36	96	19.85	0.75	463	60	156	21.13	0.47	692	106	216	20.39	0.13	604	185
37	19.88	0.11	137	39	97	18.97	0.15	468	72	157	19.70	0.11	830	107	217	17.10	1.31	256	165
38	20.11	1.27	130	43	98	18.69	0.90	481	77	158	20.42	1.12	552	107	218	20.50	-0.25	252	158
39	20.54	0.85	418	30	99	20.89	0.48	486	88	159	18.36	0.85	450	109	219	18.70	0.72	358	165
40	19.92	0.06	879	33	100	18.14	1.05	493	97	160	20.31	0.03	677	109	220	19.77	0.27	354	176
41	20.27	0.09	495	34	101	21.13	0.23	487	78	161	19.58	0.26	61	110	221	20.22	0.18	589	165
42	18.83	1.10	608	34	102	20.31	0.54	466	66	162	19.17	0.96	245	110	222	19.93	1.70	696	164
43	20.45	0.20	735	34	103	20.72	0.19	175	61	163	15.16	1.05	239	123	223	20.43	0.55	693	170
44	18.12	-0.06	724	39	104	19.63	0.15	957	64	164	19.33	0.63	257	124	224	19.31	0.72	982	165
45	19.48	0.16	241	35	105	19.54	0.06	667	67	165	20.00	0.21	237	143	225	20.68	0.23	862	167
46	19.68	0.04	327	35	106	20.50	0.65	905	67	166	18.77	0.96	267	133	226	20.59	0.56	858	172
47	20.77	0.65	521	37	107	19.59	0.81	903	77	167	20.15	0.03	259	115	227	21.10	0.22	860	181
48	20.26	0.28	527	37	108	19.25	0.83	794	70	168	19.48	0.10	281	139	228	20.32	0.98	410	168
49	19.50	0.13	657	37	109	21.59	0.40	802	72	169	20.08	0.86	328	112	229	20.59	0.11	416	168
50	20.48	0.05	663	36	110	19.91	0.06	366	71	170	20.73	0.82	724	111	230	19.45	0.23	409	178
51	19.36	0.00	660	45	111	20.24	0.10	365	79	171	18.32	1.01	111	116	231	20.08	0.77	400	184
52	19.89	0.03	674	38	112	18.71	0.10	372	86	172	19.47	0.10	615	118	232	20.26	0.11	418	188
53	20.74	0.42	678	49	113	18.56	0.93	420	71	173	21.07	0.23	954	118	233	20.89	0.28	426	184
54	20.11	0.62	44	37	114	17.12	0.76	600	71	174	20.14	0.32	183	121	234	20.65	0.07	498	169
55	21.60	0.26	37	41	115	20.99	0.83	940	73	175	19.56	0.05	129	120	235	18.28	0.85	940	170
56	20.98	0.17	46	41	116	19.09	0.96	184	74	176	18.56	0.86	286	121	236	20.43	0.34	170	171
57	18.86	0.12	521	39	117	20.66	0.10	174	75	177	18.97	0.85	489	121	237	18.71	0.87	462	176
58	20.19	0.02	587	46	118	20.91	0.16	69	76	178	19.00	0.88	397	124	238	19.39	0.43	467	179
59	18.04	-0.15	212	40	119	18.83	1.08	117	76	179	20.89	0.22	394	135	239	20.35	0.10	469	171
60	19.17	0.86	222	48	120	20.13	0.50	110	84	180	19.32	0.89	770	124	240	20.50	0.16	552	172

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.56	0.22	560	173	301	20.97	0.20	472	235	361	19.50	0.91	416	257	421	19.38	0.98	443	284
242	20.27	0.05	568	181	302	20.80	0.30	491	236	362	20.13	0.10	406	258	422	18.69	0.85	434	293
243	20.59	0.40	562	184	303	19.92	0.10	926	217	363	20.12	0.25	424	261	423	18.98	0.06	431	306
244	19.13	0.09	579	178	304	19.98	0.98	922	222	364	18.51	0.04	431	268	424	18.56	0.78	426	316
245	20.79	0.23	801	172	305	21.26	0.74	914	226	365	19.85	0.03	419	272	425	20.35	0.20	417	317
246	19.53	0.89	960	172	306	20.54	-0.06	250	218	366	20.53	0.10	738	250	426	20.68	0.24	409	317
247	20.51	1.98	742	173	307	18.73	0.73	258	227	367	20.64	0.38	441	251	427	20.78	0.41	403	311
248	20.34	0.11	537	174	308	19.73	0.13	247	229	368	18.91	1.22	600	251	428	20.16	0.14	427	303
249	17.88	1.30	328	176	309	20.92	0.20	268	222	369	20.80	-0.28	252	256	429	18.60	1.06	670	284
250	19.17	0.97	321	178	310	20.43	0.12	122	220	370	18.05	0.99	345	255	430	20.19	0.89	666	279
251	19.95	0.13	309	180	311	20.61	0.17	793	220	371	19.52	0.20	967	257	431	20.81	0.37	405	286
252	21.23	0.25	337	193	312	21.02	0.35	795	227	372	20.25	0.37	330	260	432	19.72	0.06	731	285
253	19.59	0.20	218	179	313	20.52	0.34	801	232	373	20.39	0.24	329	267	433	20.09	0.25	738	292
254	18.94	0.88	995	187	314	21.48	0.34	809	239	374	19.05	1.73	697	261	434	21.45	0.17	736	303
255	20.05	0.20	1005	184	315	20.33	0.08	176	225	375	20.39	0.57	803	263	435	19.25	0.83	126	286
256	20.84	0.24	382	183	316	19.10	0.94	175	233	376	21.46	0.35	806	271	436	19.59	0.18	115	290
257	17.98	1.20	376	197	317	18.57	1.04	168	238	377	19.84	0.20	663	265	437	20.50	0.27	999	286
258	18.60	0.79	364	194	318	19.26	0.04	228	225	378	19.60	0.04	656	275	438	20.50	1.10	760	288
259	20.73	0.10	184	186	319	20.45	0.17	689	225	379	19.40	0.10	649	276	439	20.64	0.30	770	292
260	17.14	1.06	701	188	320	20.62	0.86	143	228	380	19.81	0.00	645	287	440	18.06	-0.06	944	290
261	20.54	0.10	696	207	321	19.29	0.60	778	229	381	17.97	0.96	929	265	441	19.83	0.55	704	291
262	19.88	0.16	280	190	322	19.85	0.16	946	230	382	20.80	0.21	512	267	442	20.06	0.14	870	291
263	20.49	0.40	804	190	323	18.99	0.73	69	231	383	19.72	0.10	520	270	443	20.27	0.15	871	296
264	19.09	0.87	801	198	324	19.43	0.97	344	232	384	19.89	0.13	538	274	444	20.81	0.35	57	293
265	19.88	0.16	238	192	325	20.65	0.29	1000	233	385	20.98	0.19	53	266	445	18.83	0.08	478	294
266	20.12	0.86	949	192	326	19.89	-0.01	522	234	386	19.07	0.96	46	269	446	19.17	0.92	823	294
267	21.14	0.45	955	201	327	20.21	0.03	584	234	387	20.60	0.34	43	265	447	20.47	0.35	827	297
268	20.08	0.13	959	207	328	19.28	0.06	848	234	388	21.24	0.62	47	275	448	18.31	0.98	387	297
269	19.31	0.99	659	194	329	19.94	0.18	854	243	389	14.57	0.76	351	278	449	18.62	0.08	381	313
270	19.44	1.03	438	195	330	20.41	1.24	233	236	390	20.34	0.04	371	283	450	20.70	0.19	921	298
271	18.60	0.09	435	208	331	19.79	0.11	765	237	391	20.18	0.11	366	290	451	20.76	0.20	802	298
272	18.87	0.66	427	220	332	18.06	0.90	751	240	392	18.38	0.89	343	304	452	19.10	0.11	405	299
273	20.16	0.74	424	225	333	19.43	0.10	731	238	393	20.60	0.26	968	268	453	20.48	0.13	784	299
274	20.46	0.76	421	223	334	20.90	0.32	725	247	394	19.71	0.09	144	269	454	19.15	0.83	905	302
275	18.85	0.83	859	195	335	20.58	1.69	725	253	395	20.14	0.77	635	269	455	19.22	0.07	872	305
276	20.18	0.13	546	198	336	20.71	0.16	789	238	396	18.94	0.85	633	278	456	19.83	0.15	261	307
277	20.61	0.20	631	199	337	19.02	0.95	789	248	397	20.19	0.62	676	269	457	20.54	0.20	762	310
278	19.20	0.97	920	198	338	19.72	0.21	83	241	398	18.95	0.19	265	270	458	20.93	0.19	759	318
279	19.63	0.14	918	204	339	19.12	0.97	209	241	399	19.45	0.18	464	270	459	21.31	0.42	761	327
280	19.42	0.11	604	199	340	18.87	0.09	513	243	400	20.57	0.15	481	272	460	21.19	0.32	761	334
281	20.72	0.28	1017	200	341	19.42	0.11	629	243	401	19.16	1.21	990	272	461	19.19	0.88	930	312
282	20.24	0.10	581	201	342	19.16	0.85	465	246	402	20.14	0.18	860	273	462	19.44	0.14	547	312
283	20.04	0.12	568	203	343	19.03	0.14	468	251	403	17.61	1.07	601	274	463	20.33	0.10	106	316
284	18.68	0.86	514	205	344	21.31	0.59	461	258	404	19.67	0.14	605	285	464	20.42	0.59	987	316
285	20.42	0.20	513	212	345	20.89	0.09	470	259	405	19.04	0.96	598	288	465	19.28	0.81	284	320
286	18.94	0.06	880	205	346	20.04	0.19	479	248	406	20.25	0.01	592	291	466	19.30	0.85	341	321
287	19.01	0.80	156	209	347	20.22	0.05	454	253	407	21.01	0.24	603	267	467	20.83	0.13	352	324
288	20.16	0.96	181	210	348	18.75	0.89	449	264	408	18.42	-0.05	382	275	468	20.19	0.16	209	322
289	18.23	0.38	289	211	349	20.82	0.51	454	266	409	18.97	0.16	387	279	469	18.78	0.09	214	329
290	19.83	0.18	833	212	350	19.07	0.80	572	246	410	20.79	0.27	233	279	470	20.38	0.15	400	322
291	18.92	0.85	841	219	351	18.32	0.86	562	252	411	18.26	0.88	238	287	471	19.07	1.19	793	322
292	21.44	0.59	542	219	352	20.20	0.16	576	254	412	21.14	0.43	239	300	472	19.64	1.07	154	324
293	19.58	0.19	552	216	353	18.95	0.10	556	265	413	18.39	0.57	234	311	473	19.74	0.16	306	324
294	20.19	0.19	554	223	354	18.99	0.83	561	273	414	20.61	0.30	238	315	474	20.67	0.54	878	325
295	18.57	0.82	355	215	355	18.83	0.86	564	278	415	21.19	0.16	235	305	475	14.50	-0.21	1006	329
296	19.16	0.78	361	220	356	20.76	0.07	570	286	416	19.12	0.06	216	281	476	19.35	0.59	1015	344
297	20.11	0.20	500	214	357	19.79	-0.01	554	262	417	18.58	0.76	784	281	477	19.21	0.00	128	328
298	18.92	0.08	503	228	358	18.86	0.80	706	246	418	19.00	0.22	785	284	478	19.23	0.97	177	328
299	21.80	0.22	489	222	359	18.87	1.51	417	247	419	20.30	0.13	152	282	479	18.48	0.84	323	331
300	19.13	0.92	482	229	360	20.69	0.48	407	248	420	21.02	0.29	157	285	480	21.08	0.34	328	339

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.33	0.03	324	327	541	19.04	0.88	918	374	601	20.72	0.87	846	413	661	19.92	0.11	782	455
482	19.50	0.11	632	336	542	19.09	0.87	932	376	602	20.47	1.13	842	415	662	20.60	0.13	788	462
483	21.03	0.17	637	335	543	19.81	0.09	728	375	603	21.03	0.96	839	412	663	19.61	0.10	772	463
484	20.58	-0.16	642	332	544	21.16	0.37	725	385	604	20.84	0.76	817	414	664	20.66	0.12	697	452
485	19.66	0.08	66	333	545	20.54	0.07	754	375	605	21.03	0.60	815	417	665	20.37	0.10	699	460
486	19.37	0.07	737	334	546	20.39	0.05	764	378	606	18.22	0.02	804	431	666	21.42	0.16	688	458
487	20.63	0.24	920	334	547	20.17	0.24	751	381	607	20.13	0.38	799	443	667	20.08	0.10	229	454
488	20.36	0.16	750	335	548	18.65	0.08	739	387	608	20.55	0.24	809	425	668	18.85	-0.06	235	466
489	20.18	0.09	753	340	549	21.13	0.42	752	390	609	19.56	0.07	372	418	669	20.24	1.49	215	471
490	18.86	0.89	757	352	550	21.08	0.10	741	396	610	20.51	0.11	367	418	670	21.09	0.34	223	477
491	20.99	0.30	749	351	551	18.58	0.07	763	393	611	20.03	0.03	331	430	671	20.44	0.17	223	486
492	20.64	0.17	756	356	552	20.87	0.33	774	393	612	19.35	0.72	334	417	672	18.97	0.90	218	460
493	20.20	0.13	874	339	553	21.09	0.28	178	372	613	19.28	0.16	333	419	673	19.25	0.91	219	457
494	19.32	0.08	885	343	554	19.54	0.09	174	377	614	21.02	0.28	334	423	674	20.51	0.36	213	457
495	19.58	0.11	881	350	555	20.34	0.14	885	376	615	19.72	0.08	732	419	675	20.83	1.40	218	474
496	20.29	0.11	888	352	556	21.23	0.20	888	371	616	20.56	0.24	692	420	676	20.57	0.42	262	456
497	18.98	0.10	891	363	557	20.56	0.24	307	379	617	21.35	0.23	689	424	677	21.54	0.21	262	458
498	17.67	0.97	111	341	558	20.84	-0.02	189	382	618	15.46	0.89	923	437	678	21.01	0.34	261	462
499	19.47	0.06	308	341	559	20.41	0.25	195	385	619	20.92	0.48	911	439	679	20.52	0.18	193	459
500	20.59	0.16	715	341	560	17.10	0.89	208	385	620	19.00	0.14	281	421	680	19.72	0.15	813	462
501	19.96	0.08	720	348	561	19.31	0.04	797	383	621	19.07	0.62	284	425	681	19.78	0.15	879	466
502	19.11	0.85	168	341	562	20.33	0.11	834	384	622	16.71	-0.16	290	439	682	19.98	0.15	758	467
503	19.25	0.69	171	345	563	19.36	0.13	103	391	623	19.95	0.15	280	440	683	21.34	0.61	748	469
504	17.85	1.25	801	343	564	18.86	0.94	105	396	624	20.31	0.03	294	448	684	20.51	0.37	48	468
505	19.61	0.10	804	351	565	19.48	0.09	667	392	625	19.51	0.04	296	449	685	20.41	0.12	316	469
506	20.19	0.47	238	344	566	21.49	0.06	666	404	626	20.15	0.12	277	434	686	19.82	0.05	315	479
507	18.02	0.83	224	346	567	18.87	0.50	660	409	627	20.14	0.08	303	454	687	19.76	0.11	348	469
508	19.26	0.87	247	353	568	20.47	0.36	669	412	628	19.50	0.08	307	438	688	19.70	0.09	704	472
509	21.05	0.08	229	346	569	19.11	0.14	662	415	629	20.73	1.04	281	427	689	15.79	1.85	697	484
510	20.89	0.01	405	345	570	18.17	0.09	659	421	630	19.23	0.23	304	432	690	19.46	0.03	679	486
511	20.57	0.14	653	344	571	21.00	0.27	652	404	631	19.48	0.06	303	429	691	19.27	0.14	681	492
512	21.18	0.09	659	345	572	19.51	0.16	666	426	632	20.29	0.15	301	425	692	20.52	-0.02	697	503
513	19.94	0.07	648	348	573	21.08	-0.01	673	393	633	20.24	0.14	184	423	693	20.61	0.07	673	482
514	21.33	0.11	657	351	574	20.88	0.24	654	415	634	19.81	1.09	874	424	694	21.41	0.20	703	505
515	19.80	0.17	783	345	575	20.39	0.11	682	393	635	21.17	0.20	870	432	695	20.81	-0.12	667	476
516	18.56	0.85	775	356	576	20.56	0.38	681	390	636	20.16	0.14	940	424	696	19.89	1.04	700	491
517	19.93	-0.08	779	354	577	20.01	0.09	845	394	637	20.06	0.11	203	425	697	20.30	0.10	335	474
518	19.23	0.86	624	359	578	20.88	0.19	868	398	638	20.45	0.18	201	437	698	20.28	0.51	331	484
519	19.35	0.17	616	362	579	20.49	0.30	124	394	639	19.03	0.06	240	431	699	20.03	0.95	337	491
520	19.65	0.07	634	364	580	21.44	-0.05	125	398	640	19.88	0.15	245	433	700	20.68	0.42	336	498
521	20.39	0.44	634	370	581	20.49	0.09	301	395	641	20.15	0.08	243	440	701	20.22	0.15	332	503
522	20.43	0.22	625	365	582	20.09	0.12	698	395	642	20.92	0.04	822	432	702	19.83	0.17	322	503
523	20.91	0.17	834	351	583	19.94	0.07	695	402	643	19.83	0.05	979	433	703	19.19	0.10	327	516
524	19.12	0.91	823	353	584	20.05	0.17	701	404	644	20.85	0.34	216	437	704	21.25	0.21	334	468
525	19.25	-0.04	835	360	585	19.49	0.06	691	409	645	20.85	0.22	684	438	705	19.18	0.85	833	474
526	20.00	0.25	823	358	586	18.73	0.84	709	410	646	19.92	0.20	677	453	706	19.24	0.79	952	475
527	20.83	0.11	826	350	587	20.62	0.17	683	412	647	18.95	0.41	682	447	707	19.46	0.05	893	476
528	20.55	0.25	129	356	588	17.49	1.10	907	395	648	19.57	0.19	681	445	708	20.27	0.32	892	472
529	20.48	0.89	179	357	589	20.73	0.36	929	398	649	20.83	0.19	686	445	709	20.81	0.87	366	482
530	20.07	1.79	112	359	590	20.80	0.68	214	400	650	19.12	0.98	187	440	710	21.04	0.34	363	494
531	19.38	0.00	103	373	591	19.58	1.46	242	403	651	19.11	0.14	344	441	711	20.34	-0.09	367	485
532	19.08	0.04	414	362	592	20.78	0.32	1010	403	652	19.53	0.07	337	443	712	18.87	0.09	744	485
533	19.67	0.10	408	370	593	19.19	1.05	1012	414	653	20.69	0.10	341	450	713	19.49	0.71	742	488
534	20.82	0.05	415	371	594	20.38	0.23	313	408	654	18.38	0.92	330	456	714	20.30	0.06	113	488
535	20.67	0.04	420	362	595	18.90	0.06	158	410	655	18.33	0.89	170	442	715	20.56	0.09	835	488
536	19.05	0.06	332	363	596	19.07	0.90	166	423	656	19.45	0.82	161	444	716	18.98	0.76	829	492
537	18.77	1.08	1009	365	597	18.98	0.09	175	412	657	19.59	0.19	974	446	717	19.82	0.04	718	490
538	19.76	0.06	375	372	598	19.57	-0.17	103	413	658	20.84	0.18	982	448	718	19.82	0.05	790	496
539	20.64	0.04	369	377	599	21.20	-0.23	384	414	659	19.68	1.01	821	448	719	18.54	0.04	1006	497
540	19.17	0.90	847	373	600	19.92	0.06	222	413	660	19.41	0.04	786	450	720	20.71	0.09	204	498

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	18.05	-0.01	957	498	781	20.54	0.08	794	579	841	19.11	0.84	855	593	901	20.58	0.18	648	643
722	20.14	0.19	226	506	782	19.17	0.55	801	575	842	19.86	0.13	877	588	902	21.62	0.57	638	630
723	20.07	0.06	348	507	783	21.35	0.99	807	580	843	20.18	0.82	970	589	903	19.67	0.05	661	652
724	20.57	0.23	356	508	784	21.18	0.35	810	580	844	20.19	0.97	904	590	904	21.16	0.42	668	627
725	19.21	0.08	364	514	785	19.50	0.12	792	560	845	18.64	0.94	238	592	905	21.18	0.16	639	635
726	19.95	0.18	366	510	786	18.27	0.82	791	555	846	20.72	0.51	258	594	906	21.12	0.48	643	635
727	19.76	1.91	289	509	787	18.98	0.19	792	547	847	19.03	0.71	665	597	907	20.52	0.46	659	637
728	19.45	0.05	290	520	788	17.89	-0.02	797	546	848	20.63	0.14	711	596	908	19.66	0.09	662	630
729	20.90	0.16	283	521	789	19.06	1.53	798	540	849	18.96	0.02	712	608	909	19.72	0.27	465	645
730	19.68	0.20	720	509	790	20.34	0.63	791	588	850	19.87	0.13	932	597	910	18.65	1.12	474	652
731	18.98	0.85	854	509	791	20.56	0.14	199	546	851	19.90	0.15	791	599	911	18.33	0.61	475	625
732	20.39	0.20	979	509	792	19.70	0.01	196	552	852	19.08	0.94	218	599	912	20.79	-0.14	486	624
733	20.53	0.19	828	510	793	20.40	0.23	214	549	853	20.27	0.06	281	602	913	19.89	0.29	468	652
734	19.76	0.06	797	512	794	19.50	0.71	889	550	854	18.79	0.12	308	603	914	16.72	-0.03	477	641
735	20.12	0.06	809	519	795	19.25	0.07	79	553	855	20.86	0.37	303	610	915	19.48	0.62	299	631
736	20.54	1.06	135	513	796	20.02	0.19	160	555	856	20.79	0.28	293	610	916	20.69	0.35	45	632
737	21.18	0.43	137	520	797	18.35	0.51	1000	555	857	20.11	0.15	682	603	917	20.79	0.34	614	632
738	20.99	0.27	135	529	798	19.07	0.12	50	555	858	21.03	0.14	685	611	918	21.00	0.01	611	637
739	20.31	0.09	736	513	799	15.47	0.66	50	566	859	19.66	0.20	683	621	919	20.82	0.13	620	636
740	19.95	0.09	761	515	800	20.11	0.07	347	557	860	20.58	0.93	964	604	920	21.36	0.37	627	644
741	20.19	0.14	88	519	801	18.98	0.14	654	559	861	20.04	0.14	94	605	921	20.76	0.17	1008	634
742	19.91	0.01	89	531	802	19.74	-0.01	658	562	862	18.81	0.85	85	617	922	17.32	1.21	1003	642
743	18.94	0.82	77	518	803	19.13	0.06	649	551	863	20.60	0.10	94	620	923	20.25	1.26	1011	651
744	20.10	0.15	74	513	804	19.06	0.99	322	563	864	19.15	0.86	105	618	924	20.09	0.09	541	632
745	18.32	0.06	672	521	805	19.48	0.04	896	563	865	19.81	0.13	884	607	925	19.94	0.13	551	630
746	18.98	0.05	676	530	806	21.50	0.04	904	563	866	19.61	0.12	170	612	926	18.97	0.20	548	635
747	18.60	0.78	664	545	807	19.94	0.19	741	564	867	19.47	0.12	177	611	927	18.94	0.80	551	636
748	20.97	0.30	686	551	808	19.44	0.14	688	565	868	20.78	0.08	167	619	928	18.16	0.86	559	639
749	18.25	0.76	681	543	809	19.99	0.00	683	566	869	20.36	0.90	915	611	929	18.96	0.95	563	642
750	19.41	-0.10	683	540	810	21.10	0.40	687	569	870	19.54	1.06	783	612	930	18.63	1.42	909	638
751	18.65	0.58	659	538	811	19.16	-0.02	94	571	871	19.14	0.93	201	613	931	19.52	0.94	65	640
752	19.50	0.10	656	543	812	20.40	0.18	84	578	872	20.41	0.17	210	613	932	19.99	-0.01	73	643
753	19.88	0.03	197	529	813	20.71	0.23	310	571	873	20.19	0.22	322	614	933	18.92	0.17	70	654
754	20.12	0.04	255	529	814	18.46	0.73	626	599	874	20.42	0.29	311	615	934	19.96	0.12	687	642
755	20.62	0.26	161	531	815	18.74	0.13	631	600	875	18.86	0.10	636	614	935	19.51	0.86	692	652
756	18.89	0.93	314	531	816	20.31	0.12	638	592	876	20.26	0.28	638	609	936	18.05	-0.08	412	643
757	16.68	1.02	314	542	817	19.41	0.02	646	577	877	19.38	0.81	725	614	937	19.35	0.04	413	652
758	19.72	0.11	296	544	818	19.86	0.13	644	571	878	19.74	0.57	233	619	938	18.23	0.80	428	656
759	18.92	0.18	294	555	819	21.29	0.26	629	605	879	18.39	0.89	267	619	939	19.38	0.11	422	658
760	20.13	0.10	734	531	820	20.52	0.11	634	585	880	19.95	0.11	277	619	940	19.32	0.06	410	664
761	19.86	0.04	732	540	821	21.25	0.51	656	580	881	19.05	0.07	342	619	941	19.69	-0.06	421	651
762	19.15	0.77	733	548	822	20.83	0.37	664	572	882	20.63	-0.07	245	622	942	20.09	0.22	425	648
763	20.42	0.10	729	560	823	21.28	0.17	669	577	883	20.60	0.11	1016	621	943	17.99	1.05	724	644
764	18.55	0.91	758	531	824	19.40	0.97	925	574	884	20.78	0.19	352	623	944	20.46	0.31	134	645
765	18.87	1.12	754	528	825	18.95	0.08	397	575	885	20.04	0.02	359	630	945	19.29	0.07	952	647
766	21.00	0.20	757	524	826	17.50	0.89	396	566	886	20.05	0.12	366	630	946	20.39	0.12	445	648
767	19.93	1.47	209	532	827	18.34	0.68	402	587	887	19.17	0.85	382	639	947	18.98	0.94	869	648
768	19.98	0.06	887	534	828	18.53	0.03	408	584	888	20.78	0.00	370	633	948	18.89	0.00	367	648
769	19.96	0.15	814	537	829	20.26	-0.04	412	588	889	19.39	0.23	349	629	949	20.01	0.23	156	651
770	19.05	0.88	717	540	830	20.69	0.22	386	589	890	19.12	0.21	349	634	950	20.67	0.26	289	651
771	20.51	0.12	721	535	831	20.47	0.12	383	592	891	19.55	0.09	330	626	951	19.36	0.13	397	651
772	20.52	0.37	186	542	832	20.52	0.16	384	595	892	19.37	0.95	928	626	952	18.59	0.10	792	651
773	19.02	0.83	864	542	833	20.06	0.08	376	583	893	19.20	0.93	939	636	953	19.08	0.09	635	653
774	20.38	0.15	857	553	834	19.67	0.83	934	582	894	20.14	0.22	396	626	954	18.07	1.20	927	653
775	20.70	2.13	865	555	835	19.41	1.06	944	590	895	20.76	0.09	391	630	955	20.47	0.04	934	664
776	21.21	0.27	862	561	836	19.45	0.21	725	584	896	19.53	0.09	770	627	956	19.28	0.13	383	655
777	20.18	0.93	846	552	837	19.41	0.04	719	585	897	20.25	0.55	878	629	957	20.48	0.28	131	663
778	18.56	0.88	780	563	838	18.70	0.11	320	588	898	20.58	0.38	648	628	958	20.41	0.07	654	663
779	18.09	0.64	779	550	839	19.15	0.91	320	584	899	18.20	0.81	660	632	959	18.33	1.03	250	664
780	19.22	0.08	790	574	840	19.70	0.72	857	587	900	19.83	0.11	655	640	960	19.52	0.05	237	669

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	19.30	0.43	261	675	1021	19.84	0.07	475	691	1081	18.53	0.02	664	721	1141	19.28	0.13	254	777
962	20.44	0.03	989	664	1022	19.01	0.05	472	696	1082	19.50	0.08	387	725	1142	20.39	0.87	224	781
963	20.26	0.30	973	665	1023	20.63	0.19	188	693	1083	19.76	0.10	448	725	1143	20.37	0.12	121	783
964	20.14	0.15	829	667	1024	20.31	0.24	301	693	1084	20.91	0.17	451	732	1144	21.25	0.39	120	792
965	20.19	0.17	774	668	1025	18.96	0.78	251	694	1085	19.94	0.04	937	725	1145	20.78	0.44	442	783
966	20.02	0.12	779	670	1026	18.77	0.04	542	694	1086	18.64	0.82	218	727	1146	19.63	0.21	407	784
967	18.52	0.60	368	669	1027	19.64	0.02	550	698	1087	18.78	0.89	809	728	1147	21.59	0.16	409	794
968	21.04	0.15	378	672	1028	19.10	0.07	555	706	1088	20.65	0.21	864	728	1148	19.49	0.05	402	798
969	19.26	0.68	357	672	1029	20.00	0.19	546	713	1089	19.95	0.74	75	729	1149	20.24	0.78	135	786
970	21.18	0.34	353	680	1030	19.36	0.11	537	716	1090	20.65	0.52	466	730	1150	18.45	0.19	785	788
971	20.97	0.38	345	685	1031	19.10	0.09	537	707	1091	18.76	0.12	503	730	1151	19.65	0.10	780	797
972	20.74	0.18	351	685	1032	20.40	0.12	324	695	1092	20.58	0.36	550	733	1152	19.90	0.74	881	790
973	20.59	0.37	479	668	1033	18.35	0.52	429	696	1093	18.66	0.07	682	734	1153	19.50	0.22	821	790
974	19.79	0.05	605	670	1034	18.97	0.12	565	696	1094	19.24	0.03	692	745	1154	18.21	0.84	823	794
975	19.33	0.14	946	670	1035	18.99	0.17	520	700	1095	20.41	0.10	1002	735	1155	20.42	0.12	236	795
976	20.68	0.11	642	671	1036	18.76	0.91	509	703	1096	19.86	0.12	148	736	1156	18.84	1.13	737	796
977	18.91	0.20	631	674	1037	19.04	0.91	738	700	1097	20.12	0.17	374	738	1157	20.47	0.07	725	797
978	19.51	0.15	629	682	1038	20.34	0.16	454	701	1098	19.65	0.76	750	739	1158	20.51	0.63	729	801
979	18.91	0.84	633	688	1039	20.41	0.29	452	711	1099	21.03	0.95	756	740	1159	19.44	0.00	184	799
980	20.31	0.10	622	675	1040	20.39	0.10	645	701	1100	19.03	0.76	762	747	1160	18.86	0.88	559	800
981	18.25	0.07	631	695	1041	21.29	0.15	648	708	1101	20.17	0.20	753	755	1161	19.65	0.82	680	800
982	19.50	0.09	619	683	1042	19.90	0.24	366	704	1102	18.30	0.91	762	766	1162	19.38	-0.04	936	800
983	20.07	0.17	608	686	1043	20.07	0.06	263	705	1103	20.07	0.20	603	740	1163	19.13	0.81	167	802
984	19.83	0.03	101	673	1044	19.74	0.23	255	707	1104	21.11	0.01	608	744	1164	18.80	0.06	337	802
985	20.06	0.93	800	673	1045	20.52	0.34	269	711	1105	17.90	1.11	873	741	1165	19.13	0.93	268	804
986	18.24	1.02	910	673	1046	20.24	0.16	873	704	1106	19.26	0.06	566	744	1166	18.29	1.03	606	806
987	18.52	0.98	151	676	1047	19.87	0.10	105	705	1107	20.74	1.49	112	745	1167	21.39	0.96	666	813
988	20.23	0.19	708	677	1048	20.36	0.40	696	706	1108	19.62	0.11	450	745	1168	19.92	0.08	734	812
989	18.94	1.02	958	679	1049	19.33	0.09	687	707	1109	18.02	0.83	907	745	1169	18.90	1.01	973	814
990	19.81	0.08	969	688	1050	19.69	1.60	829	706	1110	21.02	1.28	909	754	1170	20.41	0.16	426	815
991	19.51	0.09	86	680	1051	19.31	1.46	831	716	1111	19.54	0.13	911	760	1171	19.04	0.20	425	822
992	17.93	0.77	1016	681	1052	19.93	0.15	187	707	1112	18.39	1.13	983	747	1172	20.27	0.33	1008	815
993	20.09	0.88	1025	684	1053	18.44	0.11	717	709	1113	19.73	0.89	57	748	1173	20.44	0.90	949	817
994	17.79	-0.04	1016	687	1054	19.26	0.13	711	712	1114	20.19	0.22	291	749	1174	17.60	1.01	47	819
995	20.14	0.18	452	682	1055	18.23	0.77	720	714	1115	19.67	-0.02	190	750	1175	19.52	0.26	701	819
996	20.18	0.10	457	685	1056	20.17	0.09	489	709	1116	20.25	0.06	498	752	1176	18.93	0.46	696	826
997	18.94	0.02	445	691	1057	18.60	0.75	484	715	1117	17.88	1.27	581	752	1177	18.48	0.47	534	822
998	20.55	0.04	445	702	1058	20.98	0.18	492	721	1118	19.14	0.10	593	758	1178	20.05	0.10	541	834
999	19.09	0.03	440	687	1059	20.18	0.90	246	713	1119	18.45	1.16	607	761	1179	20.46	0.11	519	824
1000	20.00	0.24	741	685	1060	19.98	0.29	620	713	1120	20.09	0.24	600	752	1180	19.61	0.06	456	824
1001	19.05	0.17	219	687	1061	19.25	0.11	621	721	1121	19.75	0.04	729	752	1181	20.45	1.59	629	824
1002	20.42	0.33	997	686	1062	20.04	0.16	60	715	1122	19.85	0.15	277	757	1182	18.95	0.82	105	825
1003	18.28	1.07	987	690	1063	18.14	0.89	373	717	1123	19.82	0.68	297	760	1183	19.69	0.26	244	825
1004	19.79	0.04	529	689	1064	20.52	0.36	364	721	1124	20.14	0.15	472	759	1184	19.43	0.58	591	825
1005	19.70	0.06	121	690	1065	18.40	1.04	568	717	1125	19.05	0.86	512	760	1185	19.59	0.08	776	825
1006	19.39	0.08	115	697	1066	19.06	0.79	580	723	1126	19.47	0.18	516	766	1186	19.55	0.97	286	827
1007	19.73	0.56	412	690	1067	19.51	-0.05	587	730	1127	20.18	0.04	499	768	1187	19.80	0.01	471	828
1008	20.04	0.12	408	695	1068	19.06	0.06	600	727	1128	20.56	0.04	963	760	1188	18.72	0.10	306	829
1009	19.15	0.81	402	697	1069	20.02	0.13	278	720	1129	20.28	0.18	623	763	1189	20.95	0.32	297	830
1010	21.03	0.29	407	716	1070	18.81	0.87	285	725	1130	16.70	1.24	428	764	1190	20.51	0.15	759	829
1011	19.58	0.11	417	719	1071	21.22	0.68	280	732	1131	19.69	0.16	539	765	1191	18.41	0.56	751	835
1012	20.52	0.20	424	728	1072	20.06	0.18	298	722	1132	20.50	1.34	169	766	1192	20.91	0.28	752	847
1013	20.53	0.33	400	707	1073	20.93	0.37	297	732	1133	20.51	0.99	462	770	1193	19.73	0.10	738	831
1014	20.13	0.10	401	710	1074	21.50	0.16	304	721	1134	20.94	0.21	470	773	1194	20.57	0.06	396	829
1015	19.10	0.00	781	690	1075	21.24	0.15	303	735	1135	20.50	0.19	301	773	1195	21.24	0.24	390	830
1016	19.93	0.95	770	693	1076	19.27	0.10	313	719	1136	20.53	-0.01	591	773	1196	19.75	0.07	398	835
1017	21.29	1.25	777	699	1077	21.40	0.32	305	741	1137	19.03	0.09	598	777	1197	20.69	0.11	936	830
1018	20.82	0.09	776	707	1078	20.63	0.35	196	720	1138	20.48	0.27	699	775	1198	19.02	0.92	660	832
1019	21.38	0.60	783	712	1079	20.66	0.20	327	721	1139	20.87	0.27	693	781	1199	19.09	0.20	222	838
1020	21.13	0.83	776	715	1080	19.74	0.22	345	721	1140	19.35	0.87	238	777	1200	20.66	0.82	203	845

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	19.22	0.13	600	844	1261	18.91	0.85	552	901	1321	20.22	0.73	133	950	1381	19.48	0.05	451	345
1202	18.63	0.77	426	845	1262	19.41	0.11	546	890	1322	18.15	1.07	40	951	1382	19.58	0.12	451	351
1203	20.67	0.34	771	845	1263	20.02	0.12	670	897	1323	20.00	0.73	107	950	1383	19.62	0.15	437	354
1204	16.14	1.79	448	846	1264	21.38	0.24	671	905	1324	21.23	0.29	100	959	1384	18.84	0.69	429	352
1205	20.82	0.67	457	858	1265	19.32	0.75	670	914	1325	18.99	0.89	929	951	1385	19.86	0.12	430	342
1206	20.26	0.15	495	847	1266	20.50	0.03	465	898	1326	19.07	0.74	314	952	1386	20.47	0.11	426	338
1207	17.41	1.32	1016	846	1267	20.01	0.08	176	901	1327	21.10	1.74	404	957	1387	20.77	-0.05	425	357
1208	20.71	0.33	1027	857	1268	19.77	1.07	451	902	1328	19.24	0.93	392	966	1388	20.83	0.33	456	321
1209	19.57	0.48	966	846	1269	20.39	-0.06	446	908	1329	20.87	0.12	396	968	1389	19.36	0.19	380	334
1210	18.87	0.66	698	848	1270	20.58	0.37	444	918	1330	18.42	0.00	390	954	1390	20.73	0.11	373	339
1211	19.27	0.11	689	849	1271	19.15	0.18	197	904	1331	18.21	1.18	394	954	1391	18.52	0.84	373	348
1212	19.08	0.87	687	854	1272	18.28	-0.06	404	905	1332	20.46	1.69	642	956	1392	19.71	0.10	363	343
1213	20.11	0.21	739	848	1273	20.08	1.07	880	906	1333	17.86	0.90	73	957	1393	19.97	0.10	365	336
1214	20.65	0.34	732	851	1274	20.42	0.26	127	907	1334	18.86	0.72	989	957	1394	20.51	0.28	355	343
1215	20.35	0.16	542	849	1275	20.16	0.10	249	907	1335	19.32	0.66	1001	959	1395	20.23	0.88	358	336
1216	18.37	1.14	126	851	1276	20.53	0.16	804	908	1336	19.25	0.80	723	961	1396	21.49	1.00	352	350
1217	20.46	0.08	113	856	1277	19.77	0.12	813	910	1337	18.29	0.84	825	962	1397	21.00	0.12	351	339
1218	20.32	0.11	174	851	1278	21.20	0.13	813	918	1338	20.08	0.20	951	963	1398	20.76	1.01	375	350
1219	20.51	0.00	374	852	1279	20.29	0.20	916	907	1339	18.84	0.01	49	967	1399	20.23	0.04	381	329
1220	19.18	0.88	81	854	1280	16.87	1.33	954	908	1340	20.62	0.07	852	966	1400	19.88	0.10	360	352
1221	20.08	0.09	154	854	1281	20.23	0.97	747	911	1341	20.53	1.58	193	967	1401	19.38	0.26	388	371
1222	17.92	1.03	853	854	1282	20.32	0.09	742	914	1342	18.21	1.13	610	969	1402	20.49	0.17	386	381
1223	19.17	0.87	401	857	1283	19.06	1.50	57	913	1343	19.60	0.13	125	969	1403	21.38	0.34	390	387
1224	18.34	0.59	306	859	1284	19.59	0.41	622	913	1344	19.87	0.82	124	975	1404	19.61	0.06	388	394
1225	20.55	0.28	593	858	1285	19.55	0.09	347	917	1345	19.53	0.07	116	977	1405	19.73	0.09	394	399
1226	19.27	0.11	830	859	1286	18.97	0.91	41	920	1346	19.02	0.84	117	985	1406	18.81	0.84	377	400
1227	19.75	0.08	837	862	1287	20.39	0.04	39	914	1347	20.47	0.89	307	970	1407	21.22	0.27	368	401
1228	20.40	0.24	956	858	1288	19.87	0.15	560	920	1348	18.20	1.10	351	976	1408	19.98	0.23	372	389
1229	20.40	0.20	518	860	1289	19.89	0.73	725	920	1349	19.41	1.34	344	969	1409	20.25	0.33	364	408
1230	20.53	0.88	802	860	1290	17.33	0.67	710	922	1350	19.77	1.41	348	969	1410	19.42	0.90	360	397
1231	19.10	0.76	814	864	1291	21.41	0.49	701	930	1351	20.59	0.12	543	971	1411	21.09	0.38	378	389
1232	20.30	0.45	802	865	1292	19.14	0.03	604	922	1352	20.82	0.25	231	973	1412	21.59	0.07	371	384
1233	19.22	0.95	48	864	1293	16.55	0.67	233	923	1353	19.36	0.05	282	973	1413	21.09	-0.37	390	373
1234	19.45	0.17	532	866	1294	19.35	0.77	465	925	1354	20.42	0.16	288	976	1414	12.21	0.74	83	442
1235	20.50	0.25	493	867	1295	19.52	0.25	91	929	1355	19.18	0.94	927	973	1415	19.14	0.04	100	456
1236	19.63	0.78	168	869	1296	19.90	0.20	947	929	1356	19.86	0.09	458	975	1416	18.71	0.13	109	457
1237	20.22	0.00	204	869	1297	19.32	0.06	212	931	1357	21.28	0.89	454	984	1417	19.23	-0.17	103	436
1238	20.00	-0.27	634	870	1298	16.55	1.25	518	931	1358	19.16	0.17	440	976	1418	20.06	0.07	716	423
1239	20.68	0.71	643	870	1299	19.52	0.06	983	931	1359	20.50	0.66	438	986	1419	17.26	1.46	708	428
1240	19.55	1.44	475	871	1300	19.24	0.11	296	932	1360	19.71	0.93	74	978	1420	21.07	0.60	711	441
1241	19.64	0.45	685	874	1301	19.48	0.25	808	932	1361	19.02	0.82	799	979	1421	18.87	1.01	718	446
1242	20.11	-0.04	730	874	1302	18.26	0.79	799	934	1362	20.35	0.16	973	979	1422	17.94	1.11	713	454
1243	20.86	0.40	91	875	1303	16.14	-0.20	818	941	1363	18.97	0.83	493	982	1423	19.44	0.03	729	442
1244	20.46	0.37	702	875	1304	20.01	-0.24	156	933	1364	19.41	0.10	134	984	1424	20.58	0.39	720	462
1245	18.37	0.02	132	878	1305	16.24	0.40	175	936	1365	19.14	0.88	700	984	1425	20.60	0.23	738	441
1246	20.46	0.35	216	879	1306	19.56	1.05	60	936	1366	20.70	0.55	837	985	1426	18.98	1.10	728	434
1247	20.53	0.13	721	882	1307	21.34	0.35	66	943	1367	19.64	0.38	64	986	1427	20.72	0.26	726	459
1248	20.08	0.09	999	882	1308	19.19	0.17	581	936	1368	19.83	0.04	585	985	1428	20.56	0.39	738	431
1249	20.17	0.16	521	885	1309	19.95	0.75	588	941	1369	20.44	0.16	429	989	1429	20.92	0.10	746	431
1250	20.48	0.11	793	885	1310	21.36	0.17	596	937	1370	18.90	0.89	419	994	1430	20.14	0.14	753	427
1251	20.23	0.13	257	886	1311	20.00	0.06	752	938	1371	19.84	1.71	425	1000	1431	20.61	0.16	705	451
1252	19.96	0.28	762	886	1312	18.70	-0.08	629	940	1372	19.44	0.87	854	992	1432	20.13	0.76	278	55
1253	19.78	0.09	770	894	1313	20.24	0.11	688	940	1373	19.87	0.06	49	995	1433	18.34	0.83	306	67
1254	18.84	0.85	72	889	1314	19.06	0.87	466	940	1374	20.22	0.97	60	998	1434	19.97	0.12	839	72
1255	19.97	0.10	274	889	1315	17.54	1.46	1002	940	1375	18.94	0.64	471	997	1435	18.93	0.11	844	80
1256	20.50	0.04	536	890	1316	20.49	0.16	199	943	1376	20.57	0.87	267	1000	1436	20.44	0.91	267	73
1257	19.88	0.25	230	892	1317	21.21	-0.09	207	943	1377	19.14	0.09	451	323	1437	19.71	0.21	307	81
1258	20.92	0.44	239	893	1318	20.18	0.14	220	943	1378	19.47	0.10	459	332	1438	19.86	0.04	438	87
1259	19.68	0.12	311	893	1319	19.82	0.47	706	947	1379	18.27	1.09	443	336	1439	19.56	0.97	760	105
1260	17.86	1.24	552	893	1320	19.74	-0.04	241	948	1380	19.26	0.17	443	343	1440	20.76	0.33	759	113

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1441	20.60	0.08	627	111	1501	20.74	0.08	242	367	1561	17.05	1.02	577	644	1621	20.61	0.85	973	944
1442	17.84	0.99	1016	147	1502	20.92	0.16	247	374	1562	16.40	1.80	585	646	1622	19.32	0.59	937	38
1443	20.35	0.21	477	151	1503	19.93	0.83	232	370	1563	19.56	0.32	567	652	1623	19.41	0.01	703	60
1444	20.41	0.29	633	155	1504	19.27	0.74	238	385	1564	18.78	0.76	560	657	1624	19.38	0.00	481	60
1445	18.26	1.08	683	155	1505	20.08	0.23	343	373	1565	18.72	0.97	548	652	1625	18.64	0.07	742	61
1446	18.95	0.07	785	156	1506	20.47	0.16	354	375	1566	20.10	-0.02	564	654	1626	19.53	0.89	718	69
1447	19.19	0.83	797	159	1507	18.64	0.90	953	432	1567	20.43	0.21	805	633	1627	18.93	1.56	987	72
1448	19.87	0.09	672	163	1508	18.98	0.93	964	437	1568	20.10	0.11	811	636	1628	18.19	1.14	977	73
1449	20.98	0.64	676	172	1509	20.35	1.10	357	439	1569	20.63	0.40	500	636	1629	19.39	0.07	643	106
1450	20.53	0.28	663	180	1510	17.73	1.12	361	447	1570	19.81	0.13	518	654	1630	17.13	0.96	510	126
1451	20.75	-0.09	670	158	1511	19.63	0.16	362	459	1571	20.72	0.18	502	656	1631	20.24	0.13	581	131
1452	19.20	0.91	831	185	1512	19.80	-0.07	367	444	1572	19.76	0.16	504	664	1632	20.62	0.20	325	135
1453	19.53	0.02	61	214	1513	19.56	0.28	365	440	1573	19.51	0.03	510	671	1633	18.77	0.06	787	141
1454	19.59	0.72	617	216	1514	19.89	0.09	362	470	1574	20.56	0.21	516	678	1634	20.65	0.28	643	146
1455	19.58	0.01	624	217	1515	20.16	0.47	362	473	1575	19.57	0.84	506	680	1635	19.10	0.93	432	150
1456	20.88	0.24	609	221	1516	20.47	0.17	369	468	1576	20.58	0.19	526	664	1636	17.90	1.61	121	200
1457	19.16	0.68	629	223	1517	20.69	0.11	922	485	1577	19.76	0.09	534	659	1637	19.89	0.01	904	237
1458	19.02	0.85	653	221	1518	19.72	0.07	921	494	1578	19.87	0.12	533	650	1638	20.15	0.15	502	257
1459	19.02	0.77	643	223	1519	20.02	0.87	926	500	1579	20.20	0.16	537	645	1639	20.05	0.08	76	292
1460	21.03	0.53	652	232	1520	20.39	0.33	920	507	1580	19.25	0.81	510	652	1640	17.75	1.03	312	292
1461	20.89	0.03	638	230	1521	20.11	0.18	913	503	1581	18.86	0.15	505	649	1641	20.28	0.28	515	295
1462	19.74	0.06	662	233	1522	18.62	0.49	907	497	1582	19.54	0.00	503	647	1642	20.44	0.50	516	302
1463	19.66	0.06	863	229	1523	19.09	0.16	777	509	1583	19.09	0.59	514	644	1643	20.68	0.16	518	307
1464	17.26	1.33	544	247	1524	20.71	0.16	775	518	1584	18.27	0.09	520	644	1644	20.48	0.04	522	306
1465	18.52	0.79	534	251	1525	20.27	0.06	167	512	1585	20.30	0.24	528	645	1645	19.02	0.11	509	309
1466	20.01	0.11	511	280	1526	19.86	0.03	254	516	1586	19.48	0.08	525	672	1646	19.98	0.41	520	315
1467	19.67	0.10	515	285	1527	13.15	0.84	908	525	1587	20.43	0.16	521	674	1647	19.05	0.11	506	317
1468	19.14	0.87	545	289	1528	18.73	0.76	905	549	1588	19.89	0.05	591	669	1648	18.99	0.09	505	303
1469	20.13	1.24	554	290	1529	18.16	0.90	929	536	1589	21.04	0.26	586	676	1649	19.51	0.80	501	323
1470	18.57	0.84	545	297	1530	12.67	0.81	252	561	1590	18.16	0.07	582	687	1650	18.30	0.74	496	313
1471	17.00	0.94	535	300	1531	18.47	0.66	252	582	1591	20.70	0.83	580	696	1651	18.36	0.82	492	307
1472	20.13	0.08	524	294	1532	18.66	0.09	272	565	1592	19.25	0.18	582	691	1652	18.50	0.08	458	299
1473	19.00	0.04	528	301	1533	20.22	-0.07	278	567	1593	18.54	0.04	613	659	1653	19.12	0.02	671	300
1474	20.10	0.22	550	301	1534	19.37	0.16	266	557	1594	18.32	0.55	449	667	1654	20.07	0.07	597	312
1475	20.64	0.05	527	284	1535	19.73	0.90	276	547	1595	19.88	0.41	433	669	1655	18.88	0.11	484	316
1476	20.19	0.25	973	285	1536	19.49	0.02	253	546	1596	20.12	0.32	452	670	1656	19.28	0.15	485	321
1477	19.13	0.02	571	301	1537	18.15	-0.09	271	550	1597	19.39	0.05	454	665	1657	19.47	0.73	483	330
1478	16.34	0.56	571	315	1538	18.56	0.84	221	577	1598	20.01	0.22	434	678	1658	19.27	0.94	468	317
1479	19.58	0.20	563	321	1539	20.58	0.34	227	585	1599	18.81	0.13	428	677	1659	18.58	0.87	479	334
1480	20.63	0.31	556	322	1540	18.92	0.80	761	592	1600	19.97	0.68	429	682	1660	20.24	0.47	491	336
1481	18.83	0.60	572	323	1541	19.28	1.00	751	596	1601	19.38	0.00	554	669	1661	18.76	0.62	479	341
1482	19.12	0.05	626	303	1542	19.53	0.07	742	601	1602	19.21	0.04	557	674	1662	19.74	0.09	482	346
1483	20.36	0.32	636	305	1543	19.23	0.81	191	599	1603	19.83	0.00	558	685	1663	20.51	0.02	586	328
1484	20.65	0.17	619	308	1544	20.55	0.18	403	602	1604	19.10	0.22	495	675	1664	16.86	1.59	583	338
1485	18.87	0.14	632	313	1545	18.04	0.75	414	606	1605	19.45	0.18	487	675	1665	19.66	0.24	590	346
1486	19.55	0.11	644	304	1546	19.48	0.06	415	614	1606	20.25	0.20	501	689	1666	18.69	0.16	571	337
1487	18.93	0.89	652	306	1547	20.34	0.22	432	618	1607	18.58	0.86	492	691	1667	19.67	0.05	593	352
1488	20.74	0.36	662	308	1548	20.00	0.02	439	625	1608	18.92	0.95	144	704	1668	19.81	-0.07	578	345
1489	21.03	0.54	653	310	1549	18.75	0.06	439	614	1609	17.15	1.53	154	716	1669	20.51	-0.19	593	345
1490	19.38	0.02	627	310	1550	19.45	0.06	424	631	1610	19.05	0.86	165	725	1670	16.80	1.29	610	327
1491	20.81	0.06	639	309	1551	20.39	0.19	434	634	1611	20.44	0.14	172	725	1671	18.14	0.50	617	331
1492	17.74	0.77	686	308	1552	19.38	-0.01	423	614	1612	20.31	0.81	108	727	1672	19.04	0.45	606	330
1493	16.82	1.30	672	316	1553	19.72	0.21	423	609	1613	18.74	0.81	119	735	1673	19.22	1.67	617	338
1494	18.80	0.15	668	329	1554	19.49	0.06	607	609	1614	13.86	0.64	126	720	1674	18.52	1.02	534	328
1495	15.95	0.69	675	338	1555	19.89	-0.04	748	610	1615	18.30	0.73	131	737	1675	18.32	0.16	525	329
1496	20.27	0.27	680	32[illegible]	1556	20.06	0.11	450	619	1616	19.18	0.04	541	786	1676	18.94	0.83	545	329
1497	20.39	0.07	678	308	1557	20.03	0.14	588	631	1617	18.81	0.86	545	793	1677	16.47	2.12	555	338
1498	20.87	-0.07	637	323	1558	19.10	0.02	591	622	1618	19.29	1.06	539	799	1678	17.84	0.64	561	343
1499	20.22	0.16	469	341	1559	18.40	0.02	588	616	1619	19.86	0.16	382	893	1679	20.22	0.23	543	336
1500	20.59	0.19	846	348	1560	19.87	0.02	577	628	1620	19.72	1.18	903	907	1680	19.86	0.05	535	337

Table 7b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1681	19.57	-0.05	527	337	1704	19.67	0.01	352	525	1727	19.50	0.85	727	779	1750	18.38	0.77	494	264
1682	20.56	0.18	600	333	1705	18.93	0.79	354	531	1728	19.78	0.25	287	786	1751	18.46	0.82	496	270
1683	18.33	0.58	697	354	1706	21.31	0.36	353	519	1729	19.49	0.08	295	791	1752	20.59	0.42	86	283
1684	18.65	0.10	706	356	1707	18.25	0.32	367	530	1730	20.20	0.11	302	796	1753	20.18	0.10	267	410
1685	19.52	0.29	694	361	1708	16.81	0.88	373	534	1731	18.83	0.85	294	799	1754	20.35	0.61	836	457
1686	20.01	0.09	667	359	1709	19.32	0.12	370	544	1732	20.95	0.28	297	814	1755	20.67	1.29	841	461
1687	20.12	0.06	675	363	1710	20.39	0.12	243	536	1733	18.43	0.59	303	805	1756	19.76	0.04	179	563
1688	18.24	0.90	664	370	1711	19.44	0.07	357	544	1734	19.44	0.01	309	805	1757	20.22	0.21	367	607
1689	18.26	0.89	682	362	1712	18.41	0.85	384	562	1735	20.56	0.06	314	808	1758	19.65	0.15	822	621
1690	18.35	0.15	657	379	1713	18.31	0.94	369	568	1736	19.74	0.13	310	799	1759	18.80	0.16	173	665
1691	19.51	0.09	653	365	1714	17.74	1.44	356	568	1737	19.44	0.32	305	808	1760	20.52	0.36	902	702
1692	20.55	0.25	651	387	1715	18.46	0.89	362	552	1738	19.85	0.05	334	837	1761	19.75	0.14	785	729
1693	20.33	0.31	647	364	1716	18.98	0.87	363	556	1739	20.70	0.12	612	843	1762	20.24	0.06	375	762
1694	19.49	0.44	651	376	1717	19.92	0.18	369	560	1740	18.18	1.16	484	935	1763	20.76	0.22	86	764
1695	20.78	0.20	652	392	1718	18.75	0.08	365	571	1741	19.98	0.25	557	971	1764	20.44	0.28	83	767
1696	18.44	0.51	645	381	1719	19.57	0.17	391	557	1742	18.78	-0.07	481	48	1765	18.57	0.88	148	894
1697	19.06	1.37	644	377	1720	20.24	0.00	386	552	1743	20.99	0.40	756	51	1766	18.60	0.75	154	899
1698	18.90	0.77	696	371	1721	18.38	0.94	358	576	1744	19.06	0.92	693	73	1767	18.48	0.18	156	907
1699	20.06	0.07	704	372	1722	18.59	0.78	380	564	1745	20.81	0.20	58	92	1768	20.24	0.73	841	922
1700	21.47	0.39	710	374	1723	19.81	0.04	366	616	1746	19.28	0.02	1015	114	1769	19.18	0.03	258	925
1701	20.98	0.02	715	371	1724	20.53	0.28	329	680	1747	20.48	0.22	222	162					
1702	19.35	0.74	979	406	1725	18.01	1.10	383	687	1748	19.01	0.05	842	178					
1703	19.52	1.61	992	491	1726	20.78	-0.02	376	689	1749	20.35	0.82	266	246					

Table 8 : Magnitudes, Colors and Positions of Stars in NGC 1868.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	19.81	0.23	158.	4.	61	21.28	0.30	75.	58.	121	19.51	0.80	150.	96.	181	19.42	0.22	77.	127.
2	21.94	0.25	22.	4.	62	19.99	0.19	210.	58.	122	20.10	0.07	172.	96.	182	22.46	0.43	228.	127.
3	19.14	0.69	17.	4.	63	22.54	0.16	12.	61.	123	21.38	0.34	281.	97.	183	20.63	0.30	188.	127.
4	21.73	0.37	57.	5.	64	21.52	0.39	16.	61.	124	19.98	0.19	87.	97.	184	19.08	0.79	271.	128.
5	22.30	0.51	297.	7.	65	22.53	0.44	12.	61.	125	20.58	0.24	240.	97.	185	21.73	0.33	311.	128.
6	21.52	0.37	288.	7.	66	21.83	0.70	300.	63.	126	21.74	0.43	230.	98.	186	21.29	0.32	236.	128.
7	18.25	0.73	118.	7.	67	19.17	0.20	220.	64.	127	20.88	0.70	154.	98.	187	20.07	0.21	59.	130.
8	20.78	0.27	228.	8.	68	23.41	0.23	10.	65.	128	20.89	0.28	183.	99.	188	20.76	0.86	247.	130.
9	23.06	0.60	151.	8.	69	22.42	0.50	303.	65.	129	20.94	0.28	235.	99.	189	21.77	0.42	106.	130.
10	21.73	0.74	299.	10.	70	21.95	0.34	273.	65.	130	22.43	0.42	247.	99.	190	22.83	0.93	177.	131.
11	20.76	0.38	316.	13.	71	19.94	0.09	288.	66.	131	20.90	0.30	165.	101.	191	20.66	0.37	273.	131.
12	22.03	0.38	77.	14.	72	22.44	0.49	181.	67.	132	21.21	-0.21	97.	101.	192	22.56	0.61	116.	132.
13	21.38	0.31	190.	16.	73	19.60	0.28	285.	68.	133	22.54	0.80	78.	102.	193	19.37	0.77	264.	132.
14	22.03	0.41	16.	17.	74	21.39	0.28	152.	68.	134	20.33	0.25	196.	102.	194	21.23	0.30	295.	132.
15	19.84	0.15	160.	18.	75	19.49	0.34	239.	70.	135	20.79	-0.04	123.	104.	195	20.37	0.26	305.	133.
16	22.01	0.41	181.	21.	76	21.78	0.52	168.	71.	136	20.18	0.00	65.	104.	196	22.10	0.55	181.	133.
17	22.59	1.39	161.	21.	77	19.37	0.78	189.	71.	137	20.73	0.20	246.	105.	197	22.19	0.69	182.	133.
18	21.60	0.47	282.	22.	78	21.08	0.38	299.	71.	138	21.60	0.25	32.	105.	198	22.75	0.38	86.	134.
19	21.56	1.81	130.	22.	79	22.37	0.45	279.	72.	139	22.86	0.49	280.	106.	199	22.17	0.28	121.	134.
20	19.25	0.81	155.	24.	80	22.35	0.37	142.	73.	140	21.59	0.31	120.	106.	200	20.01	0.04	145.	134.
21	22.50	0.63	179.	24.	81	22.06	0.37	152.	74.	141	20.94	0.19	253.	106.	201	20.56	0.71	241.	134.
22	21.39	0.28	133.	24.	82	21.58	0.37	290.	74.	142	21.42	1.57	52.	106.	202	22.30	0.27	75.	135.
23	20.88	0.79	56.	25.	83	21.22	0.39	129.	75.	143	21.92	0.56	149.	107.	203	22.36	0.52	30.	135.
24	21.19	0.22	166.	26.	84	21.40	0.22	29.	75.	144	21.87	0.52	242.	108.	204	22.41	0.12	149.	135.
25	22.25	0.44	266.	26.	85	20.95	0.21	250.	76.	145	19.85	0.20	142.	108.	205	22.84	0.46	185.	135.
26	21.72	0.44	255.	27.	86	22.33	0.44	230.	76.	146	21.95	0.41	258.	109.	206	22.19	0.46	26.	135.
27	22.46	0.26	258.	28.	87	18.86	0.78	166.	77.	147	20.92	0.22	250.	109.	207	21.80	0.57	303.	136.
28	19.47	0.78	214.	29.	88	20.55	0.10	309.	78.	148	22.18	0.63	90.	109.	208	21.40	0.17	175.	136.
29	20.40	0.15	139.	30.	89	21.85	0.35	287.	79.	149	20.32	0.23	156.	110.	209	22.62	0.50	56.	136.
30	21.13	0.19	106.	30.	90	21.59	0.28	238.	79.	150	21.40	0.29	64.	110.	210	22.60	1.07	166.	138.
31	22.04	0.41	159.	31.	91	21.21	0.34	34.	81.	151	21.53	0.35	37.	110.	211	21.92	0.30	202.	138.
32	22.10	0.45	99.	32.	92	19.02	0.64	80.	81.	152	19.00	0.78	171.	110.	212	19.59	0.22	122.	138.
33	22.56	0.51	264.	32.	93	21.17	0.38	277.	81.	153	21.00	0.96	238.	110.	213	21.47	0.25	99.	138.
34	20.67	0.18	240.	33.	94	21.54	0.44	182.	82.	154	22.06	0.20	262.	110.	214	20.57	0.19	199.	138.
35	21.46	0.32	134.	33.	95	18.61	0.97	226.	82.	155	19.78	0.23	205.	110.	215	22.27	-0.41	205.	139.
36	22.89	0.15	49.	33.	96	21.78	0.40	300.	84.	156	21.03	0.56	245.	111.	216	20.75	0.60	27.	140.
37	22.06	0.67	47.	34.	97	22.15	0.54	220.	84.	157	20.66	0.19	100.	112.	217	20.22	0.33	202.	141.
38	20.87	0.25	259.	34.	98	19.57	0.18	103.	84.	158	21.10	0.29	242.	112.	218	21.87	0.45	240.	141.
39	22.07	0.45	309.	34.	99	18.91	0.80	204.	85.	159	21.08	0.29	244.	112.	219	21.55	0.26	81.	141.
40	22.03	0.27	274.	35.	100	20.83	0.25	138.	85.	160	20.57	0.20	46.	112.	220	21.19	0.38	97.	142.
41	21.70	0.45	219.	35.	101	20.39	0.74	216.	85.	161	16.97	1.28	77.	114.	221	22.26	0.27	142.	142.
42	20.63	0.24	238.	36.	102	20.79	0.31	281.	86.	162	21.38	0.33	286.	114.	222	22.00	0.84	196.	142.
43	21.96	1.02	270.	39.	103	18.92	0.72	179.	87.	163	20.40	0.25	243.	115.	223	19.94	0.32	37.	143.
44	22.62	0.66	45.	40.	104	20.20	0.31	181.	87.	164	21.51	0.30	229.	116.	224	22.70	0.68	84.	143.
45	22.48	0.38	225.	41.	105	22.23	0.55	299.	88.	165	23.07	1.03	236.	117.	225	21.45	0.64	207.	143.
46	20.75	0.76	183.	42.	106	19.58	0.90	253.	90.	166	21.71	0.27	224.	119.	226	21.55	0.34	138.	144.
47	20.62	0.26	44.	44.	107	20.24	0.22	109.	90.	167	20.62	0.22	241.	120.	227	20.87	0.52	161.	144.
48	21.78	0.11	272.	45.	108	22.72	-0.10	242.	93.	168	19.33	0.69	297.	120.	228	19.13	0.79	217.	145.
49	21.49	0.25	164.	45.	109	21.19	0.35	216.	93.	169	20.88	0.24	151.	121.	229	20.70	0.24	178.	146.
50	21.59	0.35	191.	45.	110	22.13	0.39	264.	93.	170	23.02	1.00	10.	121.	230	21.99	0.56	197.	147.
51	21.58	0.38	131.	49.	111	20.30	0.12	171.	93.	171	21.52	0.55	7.	122.	231	21.11	0.41	115.	147.
52	21.47	0.27	52.	49.	112	21.20	0.49	145.	93.	172	21.47	0.23	160.	122.	232	22.08	0.50	201.	148.
53	20.58	0.32	165.	50.	113	22.11	0.54	196.	94.	173	22.68	0.35	273.	123.	233	21.53	0.08	165.	148.
54	20.52	0.28	206.	51.	114	21.77	0.58	16.	94.	174	22.10	0.37	186.	123.	234	21.50	0.42	128.	149.
55	21.49	0.50	266.	54.	115	20.78	0.30	292.	95.	175	20.77	0.55	230.	123.	235	20.88	0.25	32.	149.
56	22.04	0.37	265.	55.	116	21.45	0.78	241.	95.	176	20.27	0.16	259.	123.	236	22.28	0.47	279.	149.
57	21.41	0.23	302.	56.	117	18.40	0.96	37.	95.	177	21.82	-0.10	230.	124.	237	21.52	0.44	173.	149.
58	20.16	0.23	125.	56.	118	20.59	1.14	181.	95.	178	20.31	0.16	206.	124.	238	22.07	0.24	115.	149.
59	22.11	0.39	138.	56.	119	21.74	0.56	263.	95.	179	22.15	0.27	23.	126.	239	22.93	0.18	79.	149.
60	22.51	0.50	273.	57.	120	22.56	0.60	94.	96.	180	20.87	0.32	20.	127.	240	20.25	0.49	136.	149.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	21.35	0.48	219.	150.	301	21.11	0.29	113.	171.	361	22.15	0.74	107.	191.	421	21.29	0.49	300.	204.
242	20.49	0.19	191.	150.	302	19.55	1.00	195.	171.	362	20.97	0.30	257.	191.	422	21.70	0.50	54.	205.
243	20.46	0.17	188.	151.	303	18.32	0.51	191.	172.	363	22.21	0.49	155.	191.	423	20.97	0.41	174.	205.
244	21.23	0.31	144.	151.	304	21.49	0.53	285.	172.	364	22.12	0.46	106.	192.	424	19.73	0.23	181.	205.
245	21.19	0.37	223.	152.	305	19.06	0.06	60.	172.	365	20.92	0.18	137.	192.	425	18.86	0.93	110.	205.
246	21.76	0.38	69.	153.	306	22.08	0.47	94.	172.	366	19.48	0.80	208.	192.	426	21.51	-0.05	170.	205.
247	21.91	0.52	186.	153.	307	19.61	0.82	141.	173.	367	21.96	0.55	100.	192.	427	20.93	0.26	257.	205.
248	20.79	0.23	293.	153.	308	19.27	0.79	238.	173.	368	20.77	0.39	161.	192.	428	19.98	0.34	185.	206.
249	22.86	1.14	142.	154.	309	20.49	0.17	271.	173.	369	20.72	0.22	231.	193.	429	18.34	0.84	42.	206.
250	18.91	0.26	207.	155.	310	20.58	0.08	49.	173.	370	20.90	0.20	302.	193.	430	19.02	0.82	216.	206.
251	22.02	0.30	273.	155.	311	20.12	0.11	49.	173.	371	21.71	0.74	259.	193.	431	20.42	0.16	120.	206.
252	20.33	0.20	284.	155.	312	21.53	0.40	311.	174.	372	21.83	0.21	160.	194.	432	21.63	0.43	74.	207.
253	20.81	0.29	81.	155.	313	20.79	0.36	86.	175.	373	20.57	0.16	175.	194.	433	21.94	0.23	248.	207.
254	20.12	-0.18	208.	155.	314	21.49	-0.01	166.	175.	374	22.56	1.00	216.	194.	434	21.46	0.66	115.	207.
255	21.97	0.76	73.	156.	315	19.64	0.25	166.	175.	375	22.23	0.74	106.	194.	435	21.98	0.54	278.	207.
256	22.55	0.50	63.	157.	316	20.80	0.32	59.	176.	376	22.33	-0.27	178.	195.	436	20.65	0.21	273.	207.
257	21.69	0.28	84.	158.	317	20.99	0.29	259.	176.	377	21.54	0.54	267.	195.	437	22.00	0.51	250.	207.
258	20.94	0.25	280.	158.	318	21.68	0.39	231.	176.	378	18.19	0.92	135.	195.	438	20.53	0.44	169.	207.
259	20.11	0.23	175.	159.	319	19.11	0.17	220.	177.	379	19.64	0.14	193.	195.	439	18.96	0.81	210.	207.
260	22.45	0.21	73.	159.	320	20.99	0.22	312.	177.	380	21.14	0.46	219.	195.	440	20.59	0.18	226.	208.
261	20.80	0.21	248.	160.	321	21.00	0.30	264.	178.	381	20.14	0.13	277.	196.	441	20.63	0.23	220.	209.
262	22.22	0.32	297.	160.	322	21.32	0.30	234.	179.	382	20.99	0.22	98.	196.	442	19.65	0.77	71.	209.
263	22.86	-0.31	140.	161.	323	21.36	0.37	135.	179.	383	20.72	0.48	240.	197.	443	20.49	0.23	189.	209.
264	21.79	0.15	156.	161.	324	21.52	0.37	71.	180.	384	19.06	0.67	237.	197.	444	20.80	0.22	76.	209.
265	20.36	0.30	221.	161.	325	20.78	0.06	169.	181.	385	19.97	0.21	230.	197.	445	19.52	0.81	118.	209.
266	21.22	0.44	239.	162.	326	21.00	0.45	257.	181.	386	19.88	0.16	65.	198.	446	19.34	0.63	71.	209.
267	21.63	0.36	94.	162.	327	21.83	0.41	278.	182.	387	22.28	0.60	22.	198.	447	21.08	0.35	233.	210.
268	21.66	0.38	152.	163.	328	21.94	0.32	238.	182.	388	22.20	0.44	23.	198.	448	20.91	0.42	102.	210.
269	20.52	0.14	231.	163.	329	20.47	0.47	168.	182.	389	20.71	0.19	113.	198.	449	19.96	0.22	242.	210.
270	21.64	0.30	280.	164.	330	20.97	0.16	137.	182.	390	20.00	0.28	193.	198.	450	20.15	0.29	228.	210.
271	21.57	0.34	57.	164.	331	18.22	1.01	205.	183.	391	21.43	0.33	293.	198.	451	20.36	0.17	281.	211.
272	21.67	0.56	223.	164.	332	20.28	0.18	224.	183.	392	22.42	0.11	152.	199.	452	22.59	-0.08	265.	211.
273	21.23	0.33	291.	164.	333	20.25	0.25	66.	184.	393	20.91	0.31	130.	199.	453	22.00	0.78	268.	211.
274	21.27	-0.01	265.	165.	334	22.15	0.50	148.	184.	394	22.11	0.50	22.	199.	454	19.10	0.66	211.	211.
275	21.01	0.23	204.	165.	335	21.05	-0.20	135.	184.	395	21.00	0.32	225.	199.	455	20.49	0.20	126.	211.
276	21.43	0.33	8.	165.	336	21.88	0.40	173.	184.	396	20.82	0.17	264.	200.	456	21.09	0.37	62.	211.
277	21.64	0.23	172.	165.	337	19.50	0.25	88.	185.	397	20.92	0.39	213.	200.	457	21.89	0.74	169.	211.
278	21.18	0.29	186.	166.	338	22.04	0.51	297.	185.	398	21.39	0.52	151.	201.	458	19.40	0.06	151.	211.
279	21.47	0.44	235.	166.	339	22.24	0.57	290.	185.	399	21.89	0.56	74.	201.	459	19.33	0.16	237.	212.
280	21.43	0.50	87.	166.	340	19.65	0.22	273.	185.	400	20.78	-0.11	169.	201.	460	21.03	0.22	244.	212.
281	20.01	0.16	24.	167.	341	21.65	0.39	216.	185.	401	22.08	0.45	124.	201.	461	20.68	0.32	212.	212.
282	20.69	0.20	214.	167.	342	20.98	0.13	164.	186.	402	21.14	0.42	11.	201.	462	19.69	0.30	140.	213.
283	21.05	0.35	306.	167.	343	20.72	0.26	310.	186.	403	22.16	0.36	127.	201.	463	19.56	0.15	304.	213.
284	22.23	0.45	100.	167.	344	21.91	0.98	303.	186.	404	21.23	0.34	140.	201.	464	21.71	0.62	109.	213.
285	21.87	0.47	230.	167.	345	21.58	0.69	167.	186.	405	21.11	0.11	177.	201.	465	20.50	0.52	189.	214.
286	22.20	0.58	264.	167.	346	22.24	0.64	244.	186.	406	20.83	0.23	117.	202.	466	21.69	0.34	253.	214.
287	21.79	0.41	134.	168.	347	20.54	0.28	151.	186.	407	20.93	0.23	37.	202.	467	19.70	0.72	13.	214.
288	21.27	0.45	137.	169.	348	20.26	1.42	135.	187.	408	21.64	0.84	170.	202.	468	18.61	0.14	160.	214.
289	22.16	0.49	281.	169.	349	19.65	0.57	111.	187.	409	21.71	0.24	113.	202.	469	21.50	0.40	225.	215.
290	21.71	1.26	168.	169.	350	22.19	0.39	236.	187.	410	21.77	0.37	45.	202.	470	20.29	-0.26	195.	215.
291	22.67	0.39	305.	169.	351	21.96	0.50	23.	187.	411	21.18	0.31	219.	203.	471	20.06	0.43	193.	215.
292	20.50	0.30	219.	169.	352	21.75	0.36	264.	187.	412	19.68	0.30	97.	203.	472	22.33	0.49	128.	215.
293	22.18	0.35	53.	169.	353	19.50	0.85	228.	187.	413	19.37	0.73	236.	203.	473	20.54	0.32	175.	215.
294	21.33	0.17	109.	169.	354	21.34	-0.46	111.	188.	414	21.25	0.30	67.	203.	474	20.94	0.24	28.	215.
295	20.74	0.16	293.	170.	355	20.84	0.25	199.	188.	415	19.89	0.17	248.	203.	475	21.49	0.42	244.	215.
296	20.76	0.25	171.	170.	356	21.57	0.71	265.	189.	416	23.42	0.49	73.	203.	476	19.26	0.81	137.	215.
297	19.63	0.29	150.	170.	357	20.63	0.38	62.	189.	417	19.14	0.80	133.	203.	477	20.16	0.31	168.	216.
298	21.74	0.60	308.	170.	358	19.06	0.08	92.	190.	418	22.09	0.44	262.	204.	478	19.19	0.70	203.	216.
299	21.09	0.83	168.	170.	359	21.50	0.31	311.	190.	419	20.81	0.15	263.	204.	479	19.52	0.86	232.	216.
300	21.19	0.20	64.	170.	360	20.45	0.02	62.	190.	420	20.28	0.27	197.	204.	480	21.56	0.43	184.	216.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	22.45	0.63	119.	216.	541	18.91	0.54	156.	230.	601	19.21	0.89	83.	241.	661	20.03	0.27	90.	257.
482	22.17	0.73	93.	216.	542	20.20	0.16	227.	230.	602	22.30	0.50	316.	242.	662	20.81	0.31	84.	258.
483	19.76	0.15	197.	217.	543	21.83	0.51	88.	230.	603	20.61	0.25	128.	242.	663	20.23	0.13	303.	258.
484	20.64	0.19	221.	217.	544	19.09	0.68	230.	231.	604	19.90	0.30	128.	242.	664	20.42	0.19	76.	258.
485	20.33	-0.07	161.	217.	545	20.18	0.04	270.	231.	605	22.09	0.89	89.	242.	665	19.88	0.16	246.	258.
486	20.15	0.20	303.	217.	546	20.90	0.30	123.	231.	606	19.42	0.14	217.	243.	666	19.42	0.68	271.	259.
487	22.69	-0.26	126.	217.	547	21.23	0.41	305.	232.	607	18.97	0.86	83.	243.	667	20.11	0.21	128.	260.
488	19.69	0.08	233.	218.	548	19.81	0.14	310.	232.	608	20.66	0.03	148.	243.	668	19.91	0.15	18.	260.
489	21.44	0.41	100.	218.	549	19.47	0.24	158.	233.	609	19.46	0.82	55.	243.	669	20.13	0.04	237.	260.
490	20.11	0.94	202.	219.	550	20.10	0.34	130.	233.	610	20.77	0.34	264.	243.	670	22.25	-0.06	40.	260.
491	21.35	0.77	63.	219.	551	22.01	0.45	284.	233.	611	22.08	0.12	121.	244.	671	21.29	0.34	295.	260.
492	19.85	0.19	95.	219.	552	21.07	0.33	25.	233.	612	18.75	0.57	47.	244.	672	20.69	0.22	23.	260.
493	19.80	0.19	156.	219.	553	17.78	0.94	116.	233.	613	21.39	0.29	62.	244.	673	20.22	0.48	240.	261.
494	19.79	0.27	138.	219.	554	19.68	0.14	130.	233.	614	22.16	0.38	251.	245.	674	20.20	0.25	275.	261.
495	22.24	1.07	125.	219.	555	22.00	0.59	54.	234.	615	22.18	0.74	112.	245.	675	21.81	0.52	263.	261.
496	20.91	0.25	14.	219.	556	20.01	0.38	270.	234.	616	19.76	0.19	229.	245.	676	21.69	0.45	9.	261.
497	19.64	0.19	179.	219.	557	20.66	0.26	255.	234.	617	20.99	0.15	134.	246.	677	21.94	-0.29	38.	261.
498	21.42	0.00	61.	219.	558	18.96	1.23	116.	234.	618	20.89	-0.18	242.	246.	678	21.11	0.19	64.	262.
499	21.99	0.22	141.	220.	559	20.13	0.05	241.	234.	619	21.63	0.52	116.	246.	679	18.86	0.16	133.	262.
500	20.67	-0.08	196.	220.	560	19.39	0.14	154.	234.	620	19.65	0.34	81.	246.	680	21.68	0.56	256.	262.
501	19.88	0.15	298.	220.	561	20.08	0.12	139.	234.	621	19.78	0.17	232.	246.	681	20.48	0.25	312.	262.
502	21.35	0.75	27.	220.	562	21.32	1.22	145.	234.	622	18.57	0.45	221.	247.	682	21.03	0.31	306.	262.
503	19.45	0.04	164.	221.	563	20.42	0.26	132.	235.	623	20.43	0.16	121.	247.	683	21.09	0.36	69.	262.
504	19.93	0.20	221.	221.	564	19.35	0.15	162.	235.	624	22.18	0.31	272.	247.	684	20.30	0.10	114.	263.
505	19.11	0.70	274.	221.	565	19.65	0.87	226.	235.	625	20.61	0.30	252.	248.	685	20.24	-0.48	117.	263.
506	20.73	0.23	253.	221.	566	20.18	0.30	133.	235.	626	20.97	0.32	52.	248.	686	19.25	0.84	98.	263.
507	20.02	0.36	177.	222.	567	21.40	0.44	126.	235.	627	19.52	0.23	228.	248.	687	19.84	0.17	37.	263.
508	19.61	0.10	196.	222.	568	20.49	0.24	72.	235.	628	21.99	0.01	83.	249.	688	20.01	0.13	248.	264.
509	20.33	-0.04	187.	222.	569	21.50	0.39	93.	236.	629	19.30	0.69	232.	249.	689	20.55	0.29	259.	264.
510	20.23	-0.13	177.	223.	570	18.49	0.95	260.	236.	630	19.64	0.18	89.	249.	690	22.41	0.74	66.	264.
511	19.50	0.17	120.	223.	571	21.61	0.48	294.	236.	631	18.94	0.65	223.	249.	691	20.19	0.19	251.	264.
512	20.67	0.23	286.	223.	572	21.24	0.40	315.	236.	632	21.12	0.19	84.	249.	692	20.01	0.30	235.	264.
513	19.51	0.27	241.	223.	573	19.85	0.12	274.	236.	633	20.60	0.23	113.	249.	693	20.43	0.20	73.	264.
514	22.53	0.45	314.	223.	574	19.19	0.46	238.	236.	634	20.46	0.21	279.	250.	694	21.80	0.17	19.	265.
515	19.44	-0.04	199.	223.	575	19.71	0.29	246.	237.	635	19.08	0.78	242.	250.	695	18.79	0.67	133.	265.
516	19.44	0.29	34.	224.	576	22.20	0.43	302.	237.	636	22.03	1.23	269.	250.	696	19.32	0.33	114.	265.
517	21.31	0.43	44.	224.	577	21.80	0.19	71.	237.	637	21.67	0.53	95.	251.	697	21.76	-0.09	125.	265.
518	18.67	0.61	171.	225.	578	20.11	0.29	245.	237.	638	21.64	0.36	314.	251.	698	19.22	0.38	238.	266.
519	19.26	0.20	192.	225.	579	19.15	0.19	84.	238.	639	21.96	0.13	101.	251.	699	20.94	0.25	273.	266.
520	19.20	1.33	197.	225.	580	20.45	-0.13	159.	238.	640	21.85	0.74	82.	252.	700	19.32	0.24	119.	266.
521	20.41	0.13	138.	225.	581	19.81	0.18	225.	238.	641	21.15	-0.10	110.	252.	701	19.88	0.15	253.	266.
522	19.91	0.20	152.	225.	582	19.13	0.15	151.	238.	642	22.43	0.11	59.	252.	702	22.44	1.20	17.	266.
523	21.40	0.35	277.	226.	583	22.81	0.13	124.	238.	643	20.61	0.15	254.	252.	703	20.48	-0.37	133.	266.
524	20.73	0.33	109.	226.	584	19.76	-0.16	140.	239.	644	17.30	0.77	215.	253.	704	19.17	1.16	236.	267.
525	20.84	0.24	283.	226.	585	21.05	-0.15	147.	239.	645	21.75	0.61	275.	253.	705	19.67	0.18	263.	267.
526	19.88	0.22	124.	226.	586	20.31	0.31	144.	239.	646	20.61	0.45	119.	253.	706	20.95	0.35	75.	268.
527	20.98	0.46	140.	226.	587	21.01	0.55	115.	239.	647	20.57	0.24	22.	253.	707	20.53	-0.02	122.	268.
528	20.67	0.19	255.	226.	588	21.29	0.67	115.	239.	648	22.15	0.26	72.	253.	708	21.89	0.22	272.	268.
529	21.80	0.47	312.	227.	589	21.48	0.71	264.	239.	649	20.04	0.41	99.	254.	709	20.48	0.28	115.	269.
530	21.82	0.42	119.	227.	590	20.15	0.19	312.	239.	650	19.86	0.35	110.	254.	710	19.44	0.21	100.	269.
531	19.83	0.89	220.	227.	591	19.41	0.25	231.	240.	651	21.81	0.33	255.	254.	711	20.82	0.13	248.	270.
532	20.16	0.32	208.	227.	592	21.09	0.37	111.	240.	652	18.94	0.68	249.	254.	712	22.10	0.34	293.	270.
533	19.61	0.21	114.	227.	593	19.61	0.24	238.	240.	653	18.93	0.67	247.	254.	713	19.08	0.70	134.	270.
534	19.92	0.29	226.	228.	594	19.38	-0.01	213.	240.	654	20.07	0.05	129.	254.	714	21.07	0.39	244.	270.
535	20.81	0.37	91.	228.	595	21.27	0.43	91.	240.	655	21.18	-0.12	100.	255.	715	19.00	0.62	123.	270.
536	20.66	0.29	260.	229.	596	21.91	-0.15	48.	240.	656	21.53	0.74	96.	255.	716	19.99	0.15	287.	271.
537	19.77	0.04	161.	229.	597	19.76	0.27	226.	241.	657	22.15	0.48	61.	255.	717	20.10	0.15	53.	271.
538	20.01	0.23	277.	229.	598	20.09	0.06	24.	241.	658	17.91	0.61	218.	255.	718	20.28	0.03	129.	271.
539	19.58	0.23	244.	230.	599	20.08	0.27	141.	241.	659	18.97	0.90	128.	256.	719	21.15	0.23	86.	271.
540	19.43	0.19	131.	230.	600	21.98	0.34	89.	241.	660	19.39	0.16	280.	257.	720	21.16	0.37	292.	272.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	21.43	0.29	304.	272.	781	19.35	0.69	296.	286.	841	19.11	0.20	60.	300.	901	20.22	0.26	292.	315.
722	19.87	0.19	36.	273.	782	18.01	1.00	245.	287.	842	18.64	0.47	155.	301.	902	20.45	0.19	319.	316.
723	22.20	0.28	261.	273.	783	19.08	0.80	68.	288.	843	19.70	0.10	315.	301.	903	21.27	0.19	97.	316.
724	20.36	0.16	133.	273.	784	18.20	1.22	246.	288.	844	19.08	0.52	149.	301.	904	19.35	0.14	134.	316.
725	21.31	0.20	55.	273.	785	19.72	0.03	103.	288.	845	20.23	0.21	121.	302.	905	22.09	0.40	28.	316.
726	21.50	0.35	248.	273.	786	20.43	-0.13	100.	288.	846	21.72	0.47	12.	302.	906	20.97	0.31	247.	317.
727	20.70	0.20	88.	273.	787	18.85	-0.07	155.	289.	847	21.07	0.44	288.	303.	907	20.57	0.23	307.	317.
728	19.94	0.20	315.	274.	788	18.70	1.00	151.	289.	848	20.06	-0.07	236.	303.	908	19.65	0.07	210.	317.
729	21.29	0.34	295.	274.	789	19.85	-0.02	280.	289.	849	22.13	0.83	104.	303.	909	19.41	0.75	126.	317.
730	20.33	0.22	312.	274.	790	20.18	0.28	40.	290.	850	20.29	0.14	67.	303.	910	20.55	0.19	224.	317.
731	20.50	0.22	101.	275.	791	19.37	0.10	132.	290.	851	21.11	0.26	32.	303.	911	22.19	0.66	22.	318.
732	19.13	0.67	136.	275.	792	20.10	0.25	273.	290.	852	21.13	0.24	89.	303.	912	21.10	0.47	88.	318.
733	21.23	0.69	57.	275.	793	22.14	0.19	118.	290.	853	22.13	0.35	55.	304.	913	21.87	0.03	246.	318.
734	20.76	0.31	305.	275.	794	20.53	0.12	95.	290.	854	20.11	0.06	237.	304.	914	19.34	0.17	143.	318.
735	21.92	-0.47	106.	276.	795	19.10	0.72	243.	290.	855	18.67	0.44	143.	305.	915	22.04	0.50	281.	319.
736	20.93	0.35	282.	276.	796	19.93	0.15	136.	290.	856	18.23	0.77	153.	305.	916	19.21	0.72	138.	319.
737	20.27	0.28	81.	276.	797	19.01	0.72	270.	290.	857	19.38	-0.17	146.	305.	917	21.01	0.10	53.	319.
738	20.47	0.27	117.	276.	798	19.14	0.06	142.	291.	858	21.93	0.80	115.	305.	918	20.56	0.33	267.	319.
739	21.67	0.37	292.	276.	799	22.58	0.34	116.	291.	859	19.08	0.21	243.	305.	919	22.19	0.64	29.	319.
740	20.21	0.13	246.	277.	800	20.23	0.16	90.	291.	860	17.32	0.73	139.	306.	920	19.21	0.02	149.	319.
741	22.80	0.70	261.	278.	801	19.71	0.37	249.	292.	861	21.10	0.41	280.	306.	921	20.32	0.82	304.	319.
742	22.10	0.34	28.	278.	802	20.35	0.25	97.	292.	862	21.88	0.57	265.	306.	922	22.17	0.49	21.	319.
743	20.40	0.30	241.	278.	803	19.52	0.92	299.	292.	863	19.50	0.82	254.	306.	923	23.06	0.16	32.	320.
744	20.28	0.63	235.	278.	804	21.10	0.31	112.	292.	864	21.96	0.68	41.	306.	924	19.51	0.97	128.	320.
745	19.98	0.12	278.	278.	805	16.91	1.14	87.	292.	865	19.07	0.78	45.	307.	925	19.48	0.20	108.	320.
746	20.70	0.39	309.	278.	806	20.16	0.09	240.	293.	866	19.61	-0.07	215.	307.	926	19.71	0.14	91.	320.
747	19.86	0.80	24.	278.	807	20.92	0.53	282.	293.	867	19.00	0.71	103.	307.	927	21.97	0.27	117.	320.
748	20.11	0.00	233.	279.	808	18.91	0.03	156.	293.	868	20.08	0.25	13.	307.	928	19.70	0.16	162.	320.
749	18.61	0.90	133.	279.	809	18.98	-0.04	145.	294.	869	21.90	-0.11	122.	307.	929	19.65	0.27	214.	320.
750	20.22	0.14	85.	279.	810	20.06	-0.24	243.	294.	870	23.14	0.37	306.	308.	930	18.97	1.01	300.	321.
751	21.52	0.43	249.	279.	811	21.41	0.55	249.	294.	871	21.04	0.36	258.	308.	931	20.05	0.13	203.	321.
752	20.06	-0.34	131.	279.	812	20.68	0.27	75.	294.	872	19.94	0.19	288.	308.	932	19.89	0.17	264.	321.
753	20.98	-0.04	105.	279.	813	21.23	0.24	277.	295.	873	20.05	0.27	278.	308.	933	21.04	0.16	244.	321.
754	20.83	0.12	244.	280.	814	18.97	0.79	304.	295.	874	21.85	0.24	92.	308.	934	22.45	0.55	248.	321.
755	20.72	0.20	80.	280.	815	19.11	0.24	141.	295.	875	19.98	0.27	260.	309.	935	20.66	0.34	270.	321.
756	21.03	0.46	102.	280.	816	20.21	0.22	79.	295.	876	20.89	0.37	273.	309.	936	21.81	0.28	291.	321.
757	21.14	0.78	27.	280.	817	19.74	0.05	152.	296.	877	18.07	0.83	213.	309.	937	19.88	0.06	135.	321.
758	19.42	0.83	254.	280.	818	19.62	0.78	70.	296.	878	20.74	0.03	242.	309.	938	20.45	0.14	215.	322.
759	22.64	0.36	89.	281.	819	17.62	0.88	288.	296.	879	21.50	1.57	303.	309.	939	20.13	0.14	230.	322.
760	19.06	0.77	114.	281.	820	18.79	0.79	86.	296.	880	18.62	0.82	291.	309.	940	20.21	0.23	102.	322.
761	19.35	0.98	124.	281.	821	22.25	0.01	74.	297.	881	19.82	0.12	121.	310.	941	19.96	0.16	270.	322.
762	21.92	-0.12	321.	281.	822	19.38	0.19	240.	297.	882	19.73	0.35	110.	310.	942	20.06	0.19	164.	323.
763	19.03	0.30	106.	282.	823	21.23	0.37	111.	297.	883	20.97	0.44	294.	310.	943	21.46	1.27	113.	323.
764	21.70	0.40	262.	282.	824	19.42	-0.01	243.	297.	884	20.37	0.21	260.	310.	944	20.99	0.18	233.	323.
765	21.24	0.31	47.	282.	825	18.64	1.50	289.	297.	885	21.11	0.21	297.	311.	945	20.20	0.17	157.	323.
766	20.88	0.21	109.	282.	826	17.97	0.60	136.	297.	886	21.43	0.36	267.	312.	946	20.80	0.23	227.	323.
767	19.93	0.14	56.	282.	827	19.56	0.50	88.	297.	887	22.48	0.75	256.	312.	947	21.95	0.35	55.	323.
768	19.44	0.81	68.	282.	828	21.63	0.28	96.	298.	888	19.15	0.13	230.	312.	948	21.38	0.33	209.	323.
769	19.78	0.22	38.	282.	829	19.77	0.01	133.	298.	889	18.93	0.74	130.	312.	949	21.97	0.65	286.	323.
770	21.23	0.31	75.	283.	830	20.20	0.17	261.	298.	890	21.16	0.44	225.	313.	950	21.31	0.29	119.	324.
771	20.31	0.26	82.	283.	831	21.43	0.24	96.	298.	891	19.73	0.16	38.	313.	951	19.76	0.22	257.	324.
772	21.92	0.43	20.	283.	832	22.46	0.42	101.	299.	892	21.56	0.41	302.	313.	952	22.76	0.89	70.	324.
773	20.80	0.18	267.	283.	833	20.97	0.41	125.	299.	893	21.57	0.38	236.	313.	953	21.96	0.50	73.	324.
774	20.47	0.18	32.	284.	834	20.95	0.20	107.	299.	894	17.39	0.74	217.	313.	954	19.19	0.75	159.	325.
775	19.48	0.23	242.	284.	835	18.96	0.83	255.	300.	895	21.96	0.19	262.	314.	955	21.87	0.35	59.	325.
776	19.23	0.66	130.	284.	836	20.00	0.22	276.	300.	896	21.66	0.69	117.	314.	956	21.72	0.35	79.	325.
777	19.02	0.72	238.	286.	837	20.09	0.14	237.	300.	897	21.88	0.26	66.	315.	957	21.76	-0.35	198.	326.
778	20.21	0.20	278.	286.	838	19.15	0.15	144.	300.	898	20.64	0.33	269.	315.	958	21.97	0.64	265.	326.
779	20.81	0.30	283.	286.	839	21.97	0.52	17.	300.	899	18.87	0.91	255.	315.	959	19.60	0.11	181.	326.
780	21.76	0.95	86.	286.	840	20.83	0.30	279.	300.	900	19.63	0.26	208.	315.	960	21.19	0.91	199.	326.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	19.13	0.83	153.	326.	1021	21.00	0.08	40.	339.	1081	21.07	0.36	163.	350.	1141	19.42	0.22	133.	364.
962	20.88	0.25	76.	326.	1022	19.35	0.19	225.	339.	1082	21.22	0.34	287.	350.	1142	21.87	0.80	9.	364.
963	19.84	0.13	151.	326.	1023	21.78	0.38	220.	340.	1083	20.55	0.30	143.	351.	1143	20.00	0.26	308.	364.
964	21.17	0.29	20.	327.	1024	21.84	0.45	52.	340.	1084	21.56	0.50	251.	351.	1144	21.61	0.40	154.	365.
965	21.80	-0.03	97.	327.	1025	18.70	0.84	144.	340.	1085	21.40	0.20	245.	351.	1145	21.50	0.42	173.	365.
966	22.35	0.01	240.	327.	1026	21.39	0.28	297.	340.	1086	20.13	0.31	234.	351.	1146	21.87	0.40	97.	365.
967	20.03	0.28	232.	327.	1027	20.90	0.24	252.	340.	1087	21.47	-0.05	171.	351.	1147	21.66	0.37	188.	366.
968	21.57	0.46	255.	327.	1028	20.83	0.04	189.	340.	1088	20.48	0.20	184.	352.	1148	19.49	0.17	33.	366.
969	20.87	0.25	202.	328.	1029	22.68	1.00	217.	340.	1089	19.57	0.77	272.	352.	1149	19.31	0.74	211.	366.
970	19.19	0.95	165.	328.	1030	21.38	0.04	53.	340.	1090	21.26	0.17	170.	352.	1150	21.27	0.22	238.	366.
971	20.60	0.19	137.	328.	1031	21.06	0.58	41.	340.	1091	21.44	0.41	210.	352.	1151	20.82	0.76	68.	366.
972	19.98	0.26	98.	328.	1032	21.25	0.26	76.	341.	1092	21.49	0.34	190.	352.	1152	21.73	0.35	114.	367.
973	22.20	0.62	217.	328.	1033	20.60	0.63	191.	341.	1093	22.64	0.92	295.	353.	1153	20.63	0.17	122.	367.
974	21.64	0.43	268.	328.	1034	20.08	-0.01	170.	341.	1094	19.10	0.23	87.	353.	1154	19.58	0.76	42.	367.
975	18.72	0.64	163.	328.	1035	20.18	0.14	150.	341.	1095	19.76	0.16	218.	353.	1155	22.97	0.38	65.	368.
976	20.02	0.24	85.	329.	1036	20.01	0.22	170.	341.	1096	19.50	0.79	292.	353.	1156	20.47	0.31	236.	368.
977	20.10	0.23	157.	330.	1037	19.44	0.55	18.	342.	1097	19.58	0.11	234.	354.	1157	22.10	0.62	137.	368.
978	21.27	0.44	37.	330.	1038	19.07	0.83	98.	342.	1098	21.25	0.43	252.	354.	1158	21.28	0.25	81.	369.
979	19.92	0.85	57.	330.	1039	20.11	0.15	242.	342.	1099	20.22	0.11	245.	354.	1159	20.74	0.23	284.	369.
980	21.13	0.22	138.	331.	1040	19.65	0.92	141.	342.	1100	22.15	0.46	163.	354.	1160	21.14	0.33	34.	370.
981	20.38	0.16	27.	331.	1041	20.16	0.22	35.	343.	1101	22.09	0.71	300.	354.	1161	21.76	0.49	105.	371.
982	22.11	0.03	92.	332.	1042	22.52	1.03	214.	343.	1102	21.72	0.49	138.	354.	1162	21.38	0.24	192.	371.
983	20.42	0.82	204.	332.	1043	22.03	0.42	104.	343.	1103	18.72	0.82	144.	355.	1163	20.68	0.18	255.	372.
984	19.64	0.22	241.	332.	1044	21.00	0.62	211.	344.	1104	18.98	0.91	104.	355.	1164	21.53	0.37	151.	372.
985	19.47	0.19	141.	332.	1045	22.63	0.55	69.	344.	1105	20.80	0.24	158.	355.	1165	22.07	0.40	45.	372.
986	21.59	0.59	194.	332.	1046	20.19	0.41	181.	344.	1106	22.03	-0.21	246.	355.	1166	19.36	-0.04	219.	372.
987	20.93	0.30	163.	332.	1047	21.26	0.24	128.	344.	1107	20.88	0.41	89.	355.	1167	21.20	0.45	299.	373.
988	20.13	0.18	145.	332.	1048	21.72	0.23	250.	344.	1108	19.50	0.33	225.	355.	1168	19.23	0.79	242.	373.
989	22.08	0.35	120.	332.	1049	22.35	0.45	234.	344.	1109	21.92	0.78	240.	355.	1169	22.28	0.33	268.	373.
990	19.75	0.25	189.	332.	1050	19.11	0.81	93.	344.	1110	22.70	-0.18	252.	355.	1170	20.66	0.20	251.	374.
991	20.74	0.21	206.	333.	1051	22.52	1.88	192.	344.	1111	21.41	0.43	121.	355.	1171	22.61	0.45	235.	374.
992	22.09	0.41	94.	333.	1052	21.79	0.33	75.	345.	1112	21.58	0.30	255.	356.	1172	22.06	0.61	10.	375.
993	22.08	0.49	268.	333.	1053	20.28	0.59	165.	345.	1113	18.74	0.80	214.	357.	1173	20.57	0.09	188.	375.
994	19.52	0.99	176.	333.	1054	20.73	0.26	227.	345.	1114	20.31	0.17	61.	357.	1174	20.39	0.18	162.	375.
995	20.62	0.22	317.	333.	1055	19.51	0.85	287.	345.	1115	22.11	0.47	27.	358.	1175	19.56	0.26	263.	376.
996	19.57	0.24	218.	333.	1056	21.22	0.32	72.	345.	1116	19.11	0.10	183.	358.	1176	20.11	0.20	128.	376.
997	20.11	0.23	289.	334.	1057	19.55	0.15	107.	345.	1117	19.47	0.12	55.	358.	1177	21.98	0.32	299.	376.
998	20.66	0.27	275.	334.	1058	21.68	0.43	171.	345.	1118	20.72	0.28	273.	358.	1178	21.66	0.30	136.	377.
999	19.32	0.50	181.	334.	1059	20.54	-0.03	183.	345.	1119	19.85	0.19	245.	358.	1179	20.82	0.24	130.	378.
1000	19.91	0.11	176.	335.	1060	21.35	0.42	170.	346.	1120	22.29	0.67	253.	358.	1180	21.39	0.33	271.	378.
1001	19.03	0.13	153.	335.	1061	20.22	0.24	49.	346.	1121	22.24	0.32	177.	358.	1181	21.25	0.33	184.	378.
1002	20.66	0.20	247.	335.	1062	20.97	0.28	249.	346.	1122	21.92	0.38	279.	358.	1182	22.36	0.61	300.	379.
1003	20.83	0.35	86.	336.	1063	21.48	0.58	176.	347.	1123	22.09	0.30	157.	358.	1183	22.14	0.71	203.	379.
1004	19.88	0.20	198.	336.	1064	21.58	0.33	246.	347.	1124	21.09	0.32	286.	359.	1184	20.64	0.57	188.	379.
1005	20.99	0.26	24.	336.	1065	21.03	0.29	128.	348.	1125	20.34	0.01	186.	359.	1185	22.35	0.59	164.	379.
1006	22.67	0.44	41.	336.	1066	21.48	0.11	168.	348.	1126	20.04	0.40	197.	359.	1186	22.92	0.69	166.	379.
1007	22.33	0.68	116.	337.	1067	20.26	0.23	26.	348.	1127	20.00	0.19	302.	359.	1187	20.93	0.24	148.	380.
1008	19.65	0.15	180.	337.	1068	21.24	0.15	168.	348.	1128	21.89	0.54	109.	359.	1188	21.39	0.35	92.	380.
1009	21.14	0.16	210.	337.	1069	21.64	0.09	280.	349.	1129	20.49	-0.06	195.	359.	1189	23.58	-0.34	46.	380.
1010	21.27	0.33	99.	338.	1070	19.13	0.50	226.	349.	1130	21.34	0.20	58.	360.	1190	22.46	0.94	182.	381.
1011	20.61	0.05	143.	338.	1071	21.10	0.08	318.	349.	1131	20.66	0.22	220.	361.	1191	21.56	0.33	45.	382.
1012	21.85	0.52	72.	338.	1072	20.67	0.23	139.	349.	1132	21.43	0.47	154.	361.	1192	22.04	0.19	292.	382.
1013	20.66	0.22	231.	338.	1073	21.36	0.34	123.	349.	1133	22.51	0.73	263.	361.	1193	19.18	0.92	283.	382.
1014	20.87	0.40	196.	338.	1074	18.58	0.50	225.	349.	1134	21.76	0.85	269.	362.	1194	19.53	0.27	188.	382.
1015	20.07	0.40	169.	339.	1075	20.75	0.38	172.	350.	1135	22.39	0.47	178.	362.	1195	20.95	0.28	289.	383.
1016	22.75	0.43	44.	339.	1076	19.16	0.72	278.	350.	1136	20.94	0.25	110.	362.	1196	22.21	0.44	163.	383.
1017	18.17	0.96	207.	339.	1077	21.45	0.38	257.	350.	1137	21.02	0.33	202.	363.	1197	19.43	0.14	207.	383.
1018	19.98	0.20	169.	339.	1078	20.55	0.28	221.	350.	1138	21.81	0.41	123.	363.	1198	20.80	0.26	151.	383.
1019	22.18	0.44	284.	339.	1079	20.36	0.18	100.	350.	1139	21.34	0.24	318.	363.	1199	21.53	0.31	92.	385.
1020	19.08	0.79	238.	339.	1080	21.83	0.02	106.	350.	1140	22.30	0.69	190.	363.	1200	18.78	0.98	21.	385.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	18.43	0.93	250.	386.	1261	20.30	0.17	132.	414.	1321	22.10	0.45	182.	444.	1381	21.91	0.48	181.	476.
1202	20.64	0.20	305.	386.	1262	22.01	0.55	89.	414.	1322	23.27	1.15	212.	444.	1382	18.96	0.88	300.	476.
1203	22.49	0.47	273.	386.	1263	21.08	0.89	12.	414.	1323	21.13	0.32	200.	445.	1383	22.09	0.08	67.	477.
1204	22.54	0.75	239.	386.	1264	21.44	0.34	211.	414.	1324	23.08	1.38	99.	445.	1384	21.61	0.29	69.	478.
1205	21.23	0.26	117.	386.	1265	21.57	0.32	316.	414.	1325	20.69	0.23	187.	446.	1385	21.31	1.69	36.	479.
1206	23.03	1.14	152.	387.	1266	19.80	0.33	43.	414.	1326	21.03	0.50	110.	448.	1386	22.26	0.56	61.	479.
1207	19.41	0.79	173.	387.	1267	21.27	0.22	224.	415.	1327	21.24	0.35	179.	448.	1387	21.00	0.91	189.	479.
1208	22.60	0.58	200.	387.	1268	21.98	0.42	118.	415.	1328	21.73	0.52	197.	449.	1388	22.35	0.57	273.	479.
1209	20.49	0.12	275.	387.	1269	21.64	0.28	155.	415.	1329	22.49	0.32	301.	451.	1389	22.65	-0.18	185.	479.
1210	21.58	0.22	69.	388.	1270	22.33	0.56	168.	415.	1330	20.12	0.20	110.	451.	1390	20.22	0.89	156.	481.
1211	21.86	0.49	257.	389.	1271	19.57	0.23	195.	415.	1331	21.36	0.42	32.	451.	1391	22.95	0.68	70.	481.
1212	21.03	0.32	117.	389.	1272	22.67	0.22	136.	415.	1332	21.28	0.28	260.	451.	1392	21.86	0.37	237.	483.
1213	22.13	0.52	49.	389.	1273	21.24	0.34	98.	416.	1333	21.71	0.54	42.	452.	1393	22.84	1.24	179.	483.
1214	19.87	0.18	41.	390.	1274	22.50	0.48	170.	416.	1334	19.09	0.83	214.	452.	1394	20.62	0.16	269.	483.
1215	21.01	0.26	306.	391.	1275	22.09	0.32	230.	418.	1335	19.13	0.77	82.	452.	1395	18.06	1.00	191.	483.
1216	21.13	0.34	200.	391.	1276	20.44	0.18	248.	418.	1336	22.32	0.40	144.	452.	1396	21.71	0.51	146.	484.
1217	22.04	0.58	313.	391.	1277	18.64	0.95	172.	419.	1337	22.85	0.57	195.	452.	1397	21.48	0.29	318.	486.
1218	22.90	0.40	259.	392.	1278	21.66	0.47	226.	419.	1338	19.50	1.52	241.	452.	1398	22.27	0.55	29.	486.
1219	20.50	0.23	157.	392.	1279	21.12	0.39	44.	420.	1339	22.84	0.41	235.	453.	1399	22.56	0.51	151.	486.
1220	20.78	0.32	39.	392.	1280	20.90	0.18	186.	420.	1340	21.74	0.39	170.	453.	1400	21.30	0.37	79.	486.
1221	20.37	0.18	120.	393.	1281	21.71	0.23	132.	420.	1341	21.70	0.40	147.	454.	1401	21.60	0.25	242.	487.
1222	21.98	0.44	90.	393.	1282	22.31	0.39	231.	421.	1342	20.98	0.39	85.	454.	1402	21.92	0.52	153.	490.
1223	20.64	0.29	194.	394.	1283	19.50	0.76	220.	421.	1343	20.23	0.82	115.	455.	1403	21.46	0.65	153.	491.
1224	21.35	0.38	183.	395.	1284	19.51	0.80	113.	421.	1344	22.30	0.48	104.	455.	1404	22.75	0.66	311.	492.
1225	22.66	0.25	311.	395.	1285	20.43	0.20	35.	422.	1345	22.58	0.29	142.	456.	1405	22.75	0.84	275.	492.
1226	21.39	0.12	312.	396.	1286	21.03	0.32	272.	423.	1346	21.12	0.59	298.	456.	1406	20.73	0.34	244.	493.
1227	20.74	0.20	231.	397.	1287	21.01	0.32	37.	423.	1347	21.37	0.90	86.	457.	1407	19.60	0.24	12.	494.
1228	19.80	0.20	143.	397.	1288	21.04	0.28	228.	424.	1348	22.80	0.29	52.	457.	1408	20.37	0.72	52.	495.
1229	21.58	0.44	298.	397.	1289	21.69	0.49	182.	424.	1349	20.87	0.39	48.	458.	1409	21.07	0.42	82.	495.
1230	20.36	0.22	141.	398.	1290	20.10	0.45	276.	425.	1350	21.43	0.22	151.	458.	1410	21.34	0.30	105.	495.
1231	19.81	0.22	164.	398.	1291	19.35	0.11	13.	425.	1351	20.03	0.15	93.	459.	1411	20.52	0.16	216.	495.
1232	21.93	0.26	32.	398.	1292	21.10	0.22	134.	427.	1352	22.81	0.17	258.	459.	1412	22.45	0.56	239.	495.
1233	20.67	0.19	206.	399.	1293	19.59	0.13	216.	428.	1353	20.18	0.20	210.	459.	1413	22.40	0.49	56.	496.
1234	22.59	0.55	37.	399.	1294	21.04	0.03	13.	428.	1354	21.29	0.28	153.	461.	1414	20.70	0.18	312.	496.
1235	20.95	0.25	273.	399.	1295	19.08	0.94	300.	429.	1355	20.04	0.21	136.	462.	1415	18.34	1.05	224.	496.
1236	21.38	0.64	309.	400.	1296	19.82	0.23	249.	429.	1356	21.07	0.26	99.	462.	1416	18.73	0.87	86.	496.
1237	21.27	0.50	196.	402.	1297	21.31	0.31	109.	430.	1357	18.83	0.83	25.	462.	1417	22.39	0.15	57.	497.
1238	21.66	0.35	212.	402.	1298	20.34	0.84	98.	431.	1358	21.89	0.78	258.	462.	1418	22.16	0.62	45.	497.
1239	21.42	0.29	113.	403.	1299	22.47	0.85	246.	432.	1359	22.57	0.64	268.	463.	1419	17.75	1.11	169.	497.
1240	20.24	0.18	182.	404.	1300	20.14	0.14	201.	432.	1360	22.92	0.60	144.	463.	1420	20.38	0.26	278.	498.
1241	21.52	0.27	258.	404.	1301	21.26	0.30	69.	433.	1361	22.38	0.23	275.	464.	1421	20.63	0.17	38.	498.
1242	21.24	0.75	93.	404.	1302	21.55	0.32	207.	433.	1362	21.49	1.57	212.	465.	1422	21.74	1.79	238.	499.
1243	21.07	0.20	63.	405.	1303	20.75	0.24	73.	433.	1363	20.76	0.41	273.	465.	1423	21.10	0.26	58.	500.
1244	19.05	0.82	108.	405.	1304	20.08	0.84	133.	434.	1364	20.09	0.09	104.	466.	1424	20.57	0.05	268.	501.
1245	22.05	0.54	302.	406.	1305	21.89	0.64	189.	434.	1365	22.20	0.54	256.	466.	1425	21.67	0.34	135.	501.
1246	22.30	0.56	219.	406.	1306	22.43	0.11	197.	435.	1366	21.98	-0.14	190.	467.	1426	17.99	1.07	209.	501.
1247	20.73	0.24	164.	407.	1307	21.84	0.09	79.	436.	1367	22.40	0.01	297.	468.	1427	20.72	0.26	101.	501.
1248	22.48	0.65	64.	408.	1308	22.61	0.50	195.	436.	1368	19.91	0.16	157.	469.	1428	20.81	1.29	237.	502.
1249	20.89	0.25	169.	408.	1309	21.43	0.41	200.	436.	1369	21.46	0.37	43.	470.	1429	22.40	-0.15	94.	502.
1250	22.32	0.93	42.	408.	1310	22.43	-0.04	74.	436.	1370	21.26	0.38	295.	470.	1430	20.91	0.64	235.	503.
1251	21.17	0.17	46.	408.	1311	22.24	0.51	133.	438.	1371	22.08	0.41	18.	470.	1431	22.44	0.55	91.	504.
1252	20.92	0.33	108.	408.	1312	20.13	0.25	15.	439.	1372	20.02	0.14	189.	470.	1432	22.07	0.53	126.	504.
1253	20.87	0.19	184.	409.	1313	22.13	0.47	173.	439.	1373	22.07	0.53	20.	472.	1433	20.73	1.49	238.	504.
1254	19.25	0.81	81.	410.	1314	19.53	0.19	78.	439.	1374	21.73	0.30	61.	472.	1434	22.17	0.86	146.	505.
1255	21.58	0.34	44.	411.	1315	20.23	0.78	210.	440.	1375	20.69	0.30	152.	472.	1435	20.85	0.30	205.	505.
1256	21.86	0.26	281.	412.	1316	22.45	0.58	100.	440.	1376	21.08	0.59	85.	473.	1436	22.26	0.36	251.	505.
1257	20.57	0.23	191.	412.	1317	21.95	0.58	71.	441.	1377	20.15	0.19	82.	473.	1437	21.59	0.68	246.	505.
1258	20.35	0.23	183.	413.	1318	21.04	0.27	153.	441.	1378	19.42	0.16	284.	473.	1438	21.62	0.51	247.	505.
1259	22.97	0.18	102.	413.	1319	20.40	0.25	43.	443.	1379	22.19	0.38	66.	476.	1439	21.72	0.89	237.	507.
1260	21.33	0.36	31.	413.	1320	20.69	0.22	104.	444.	1380	22.07	0.69	84.	476.	1440	20.78	0.39	197.	509.

Table 8 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1441	18.98	0.86	125.	510.	1443	19.86	0.19	101.	511.	1445	23.03	0.47	151.	512.	1447	22.00	0.25	292.	512.
1442	21.53	0.17	160.	511.	1444	20.07	0.19	120.	511.	1446	21.78	0.55	96.	512.	1448	22.06	0.32	311.	513.

Table 9a : Magnitudes, Colors and Positions of Stars in NGC 1987.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	19.18	0.85	234.	-37.	61	19.75	0.75	349.	-5.	121	21.26	0.82	259.	22.	181	21.10	0.31	334.	40.
2	19.18	0.91	168.	-37.	62	19.17	0.99	356.	-5.	122	19.45	0.12	346.	22.	182	20.77	0.88	85.	40.
3	20.15	0.85	391.	-37.	63	21.05	-0.13	420.	-5.	123	20.32	1.21	131.	22.	183	21.08	0.52	180.	40.
4	19.73	0.64	384.	-37.	64	20.64	0.15	187.	-4.	124	20.77	0.23	189.	22.	184	21.36	0.57	391.	40.
5	20.20	0.49	272.	-36.	65	21.07	-0.05	407.	-2.	125	19.13	0.43	133.	23.	185	20.64	0.61	205.	41.
6	20.90	0.72	400.	-36.	66	21.27	0.26	298.	-2.	126	20.64	0.45	302.	23.	186	19.82	1.05	406.	41.
7	17.75	1.12	409.	-36.	67	18.98	0.71	293.	-1.	127	20.48	0.16	306.	23.	187	19.33	0.90	403.	42.
8	21.05	0.18	179.	-35.	68	18.97	0.36	371.	-1.	128	19.64	0.30	142.	24.	188	19.03	0.93	19.	43.
9	20.59	0.63	313.	-35.	69	19.34	0.83	167.	-1.	129	20.42	0.30	426.	24.	189	20.60	0.41	218.	43.
10	20.03	0.70	380.	-35.	70	21.30	0.13	387.	0.	130	21.06	0.26	298.	25.	190	21.20	0.35	393.	44.
11	19.51	0.89	276.	-33.	71	20.39	0.26	156.	1.	131	20.76	0.17	124.	27.	191	20.38	0.64	82.	44.
12	21.16	0.53	293.	-32.	72	21.06	0.53	201.	2.	132	20.25	0.28	318.	27.	192	19.32	0.96	291.	45.
13	18.54	0.98	344.	-32.	73	20.07	0.01	176.	3.	133	20.00	0.47	275.	27.	193	21.23	0.21	235.	45.
14	21.40	0.50	183.	-31.	74	20.99	0.50	412.	4.	134	20.43	0.21	203.	27.	194	20.19	0.00	68.	46.
15	20.15	0.32	200.	-31.	75	21.00	0.40	292.	4.	135	16.57	-0.08	241.	27.	195	21.16	0.68	232.	47.
16	20.75	0.18	335.	-30.	76	19.17	0.93	350.	4.	136	19.09	0.84	188.	28.	196	19.27	0.65	81.	47.
17	20.72	0.28	237.	-29.	77	20.59	0.24	298.	4.	137	20.63	0.16	301.	28.	197	20.43	0.15	280.	47.
18	21.20	0.42	194.	-29.	78	21.36	0.26	232.	4.	138	18.89	0.80	102.	28.	198	21.42	0.38	166.	47.
19	21.17	0.73	358.	-27.	79	20.24	0.99	221.	5.	139	20.13	0.23	357.	29.	199	21.32	0.15	274.	48.
20	20.08	0.47	255.	-26.	80	21.18	0.12	236.	5.	140	20.72	0.31	169.	29.	200	21.21	0.39	432.	48.
21	21.33	0.31	251.	-24.	81	19.39	0.89	366.	5.	141	19.76	0.07	391.	29.	201	15.84	2.28	144.	49.
22	17.73	0.74	350.	-24.	82	21.12	0.70	182.	5.	142	21.30	0.48	409.	29.	202	19.01	1.02	24.	51.
23	20.26	0.38	156.	-23.	83	20.54	0.22	228.	5.	143	19.84	0.25	297.	29.	203	21.12	0.07	434.	51.
24	19.12	0.88	217.	-23.	84	20.64	0.14	357.	6.	144	20.48	0.08	164.	30.	204	20.33	0.97	13.	52.
25	21.05	0.69	284.	-22.	85	21.34	0.63	375.	6.	145	20.25	0.21	433.	30.	205	20.64	0.07	349.	53.
26	21.21	0.77	258.	-22.	86	19.11	0.89	202.	6.	146	21.30	0.60	402.	30.	206	20.08	0.17	300.	53.
27	21.10	0.49	311.	-21.	87	18.75	0.80	307.	6.	147	20.00	1.11	52.	30.	207	20.29	0.22	334.	54.
28	20.33	0.27	316.	-21.	88	20.22	0.02	206.	6.	148	19.42	0.78	269.	31.	208	20.73	0.25	428.	54.
29	20.48	0.84	300.	-21.	89	20.64	0.10	432.	8.	149	19.24	0.76	395.	32.	209	17.75	0.89	391.	54.
30	19.90	0.62	430.	-20.	90	21.12	0.45	344.	9.	150	18.74	0.91	180.	32.	210	20.17	0.18	39.	54.
31	20.56	0.62	196.	-20.	91	18.98	0.88	292.	10.	151	21.12	0.41	378.	32.	211	18.98	0.84	378.	54.
32	18.22	-0.04	387.	-19.	92	21.01	0.41	321.	10.	152	20.75	0.32	206.	32.	212	17.95	1.11	397.	55.
33	20.68	0.46	291.	-19.	93	20.95	0.19	223.	10.	153	21.01	0.67	361.	33.	213	18.65	0.83	304.	55.
34	20.86	0.06	226.	-19.	94	17.87	1.14	353.	10.	154	21.31	0.06	166.	34.	214	19.74	0.16	120.	56.
35	20.71	0.86	221.	-18.	95	19.98	0.61	348.	11.	155	19.58	1.00	354.	34.	215	19.45	1.23	249.	56.
36	19.42	0.73	240.	-18.	96	20.91	0.34	151.	11.	156	19.21	0.86	190.	34.	216	19.81	0.22	20.	56.
37	20.76	0.09	179.	-17.	97	19.87	0.67	431.	12.	157	20.04	0.28	419.	34.	217	20.44	0.13	161.	56.
38	19.17	0.90	399.	-16.	98	20.62	0.45	251.	12.	158	20.99	0.35	248.	34.	218	20.15	0.95	232.	57.
39	18.71	0.94	392.	-15.	99	20.44	0.42	150.	12.	159	19.60	0.12	370.	35.	219	19.02	0.83	212.	57.
40	19.36	0.08	321.	-15.	100	18.93	0.87	263.	13.	160	19.43	0.91	338.	35.	220	19.64	0.96	354.	57.
41	20.20	0.35	266.	-13.	101	19.58	0.09	209.	14.	161	19.74	0.25	309.	35.	221	18.66	0.98	349.	58.
42	19.14	0.70	186.	-13.	102	19.38	0.97	163.	15.	162	20.48	0.03	231.	35.	222	20.47	0.89	287.	58.
43	20.83	0.00	360.	-13.	103	19.58	-0.04	194.	15.	163	18.35	0.79	318.	35.	223	20.82	0.33	218.	58.
44	18.24	0.02	240.	-13.	104	21.29	0.24	248.	15.	164	20.12	0.58	55.	36.	224	19.11	1.11	369.	58.
45	20.01	0.36	363.	-12.	105	19.29	0.92	227.	15.	165	21.29	0.33	363.	36.	225	20.64	0.23	74.	59.
46	20.96	0.24	159.	-12.	106	20.32	1.14	197.	16.	166	20.25	0.25	65.	37.	226	20.34	0.29	329.	59.
47	21.41	0.82	227.	-11.	107	19.80	0.75	426.	16.	167	19.45	0.92	355.	37.	227	20.65	0.38	376.	60.
48	21.09	0.28	382.	-11.	108	20.38	0.44	272.	16.	168	20.64	0.68	61.	37.	228	19.23	0.66	386.	60.
49	20.82	-0.22	416.	-10.	109	21.12	0.65	359.	16.	169	20.56	0.93	78.	37.	229	19.87	0.18	174.	60.
50	21.41	-0.46	425.	-10.	110	20.13	0.17	252.	17.	170	20.24	0.19	109.	37.	230	19.86	0.16	152.	60.
51	20.06	0.11	217.	-10.	111	20.29	0.73	267.	17.	171	20.49	0.31	18.	37.	231	20.17	0.39	73.	61.
52	20.29	0.00	248.	-9.	112	19.90	0.62	223.	18.	172	20.49	0.40	327.	38.	232	20.11	0.24	115.	61.
53	20.91	0.32	168.	-9.	113	17.71	1.16	396.	18.	173	21.22	1.00	183.	38.	233	21.39	0.47	341.	62.
54	21.17	0.24	209.	-8.	114	20.19	0.34	286.	19.	174	20.61	0.69	127.	38.	234	20.51	0.58	158.	62.
55	19.18	0.88	204.	-8.	115	20.14	0.21	403.	19.	175	20.59	0.26	421.	39.	235	19.36	0.69	60.	63.
56	20.19	0.34	156.	-7.	116	19.13	0.88	57.	20.	176	20.89	0.78	427.	39.	236	21.26	0.34	209.	64.
57	21.02	0.37	191.	-7.	117	20.04	0.29	102.	20.	177	20.83	0.03	170.	39.	237	21.04	0.47	398.	64.
58	21.10	1.09	260.	-7.	118	21.11	0.11	351.	20.	178	21.37	-0.03	275.	39.	238	18.73	0.96	294.	64.
59	21.13	0.45	298.	-7.	119	21.22	0.33	180.	21.	179	21.07	0.15	253.	40.	239	20.48	0.41	122.	64.
60	20.76	0.52	311.	-6.	120	20.87	0.27	199.	22.	180	16.86	0.88	411.	40.	240	19.78	1.10	13.	64.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.04	0.67	357.	64.	301	21.16	0.41	335.	87.	361	19.84	0.07	140.	105.	421	18.25	0.75	368.	125.
242	19.18	0.17	39.	65.	302	18.61	0.95	124.	88.	362	18.15	1.04	204.	105.	422	18.82	0.13	112.	125.
243	19.34	0.15	174.	66.	303	19.14	0.78	291.	88.	363	20.39	0.12	122.	105.	423	20.08	0.34	60.	126.
244	18.24	1.28	274.	66.	304	16.93	1.64	158.	88.	364	19.49	0.42	235.	105.	424	19.77	0.22	220.	126.
245	20.41	0.26	113.	66.	305	20.27	0.19	167.	89.	365	20.07	0.25	319.	106.	425	19.60	0.33	165.	126.
246	21.22	0.25	244.	67.	306	20.42	-0.09	19.	89.	366	19.08	0.86	269.	107.	426	19.40	0.14	150.	126.
247	18.76	1.09	86.	67.	307	19.60	0.06	404.	89.	367	21.16	1.60	304.	107.	427	20.18	0.12	207.	126.
248	19.07	0.85	188.	67.	308	21.39	0.23	265.	89.	368	19.52	1.14	32.	108.	428	18.03	0.86	140.	127.
249	21.31	0.32	332.	67.	309	19.75	1.18	94.	90.	369	20.41	0.20	342.	108.	429	19.58	0.11	151.	127.
250	20.51	0.39	17.	68.	310	20.81	0.41	348.	90.	370	18.36	0.88	95.	109.	430	20.87	0.13	291.	127.
251	20.77	0.28	156.	68.	311	20.55	0.29	242.	90.	371	20.51	0.61	142.	109.	431	20.17	0.08	428.	127.
252	20.83	0.06	169.	68.	312	19.64	0.29	279.	91.	372	19.41	0.77	415.	109.	432	20.04	0.56	198.	127.
253	19.33	0.69	110.	68.	313	20.02	0.34	100.	91.	373	19.15	0.43	75.	109.	433	20.03	0.20	160.	128.
254	19.22	0.93	367.	68.	314	19.68	1.38	151.	91.	374	20.79	0.60	381.	109.	434	19.90	0.51	87.	128.
255	19.64	1.02	216.	68.	315	19.66	0.28	91.	91.	375	19.35	0.66	375.	110.	435	20.46	0.14	387.	128.
256	20.33	0.32	61.	68.	316	18.16	1.20	292.	91.	376	19.94	0.38	100.	110.	436	19.30	0.84	177.	128.
257	20.41	0.11	152.	69.	317	21.03	0.70	285.	92.	377	20.46	0.14	420.	110.	437	19.35	1.02	131.	128.
258	20.52	0.22	425.	69.	318	18.60	0.86	234.	92.	378	20.68	0.82	407.	111.	438	19.38	0.85	256.	129.
259	19.16	0.21	132.	70.	319	20.47	0.34	132.	93.	379	20.88	0.37	186.	111.	439	20.19	0.79	123.	129.
260	21.22	0.54	342.	71.	320	20.78	0.44	39.	93.	380	21.28	0.25	299.	112.	440	19.88	1.17	103.	130.
261	19.79	0.27	391.	71.	321	18.66	0.92	137.	93.	381	19.57	0.33	10.	112.	441	20.91	0.59	294.	130.
262	21.43	0.23	402.	71.	322	18.37	0.03	156.	93.	382	19.68	1.06	74.	112.	442	19.51	0.97	277.	130.
263	20.03	0.29	160.	72.	323	20.94	0.49	243.	93.	383	20.52	0.34	322.	112.	443	19.63	0.87	57.	131.
264	18.45	-0.02	323.	72.	324	19.09	0.67	180.	93.	384	20.42	0.34	208.	112.	444	19.17	0.91	390.	131.
265	20.82	0.22	257.	72.	325	20.90	0.58	311.	93.	385	19.23	0.88	291.	112.	445	19.17	0.83	351.	132.
266	20.65	0.28	297.	73.	326	19.49	0.29	379.	94.	386	20.49	0.08	424.	112.	446	18.85	0.92	71.	134.
267	18.14	1.08	221.	73.	327	21.26	0.85	345.	94.	387	20.79	0.11	334.	113.	447	20.69	0.37	41.	135.
268	18.81	0.55	107.	73.	328	19.99	0.93	394.	94.	388	18.83	1.08	224.	113.	448	19.73	0.21	340.	135.
269	19.04	0.93	22.	74.	329	19.66	1.17	423.	94.	389	19.40	0.68	153.	113.	449	21.42	0.53	383.	135.
270	20.57	0.19	278.	75.	330	21.17	0.42	271.	95.	390	21.07	0.36	248.	115.	450	20.88	0.34	177.	135.
271	18.25	1.03	287.	75.	331	20.08	0.25	183.	95.	391	20.01	0.62	352.	115.	451	20.00	0.17	159.	136.
272	21.04	0.28	367.	76.	332	20.18	0.78	130.	96.	392	21.44	-0.04	253.	115.	452	19.10	0.99	139.	136.
273	19.19	0.77	421.	76.	333	19.92	0.82	327.	96.	393	18.97	0.51	258.	116.	453	20.70	0.52	39.	136.
274	20.98	0.07	318.	76.	334	18.38	1.02	236.	96.	394	19.16	0.80	416.	116.	454	20.80	0.07	318.	136.
275	20.00	0.04	129.	76.	335	20.46	0.25	226.	97.	395	18.98	1.03	216.	117.	455	21.21	0.37	258.	137.
276	19.00	0.85	357.	76.	336	20.91	0.59	274.	97.	396	18.77	0.72	87.	117.	456	20.32	0.31	96.	137.
277	20.54	0.30	182.	77.	337	21.17	-0.13	356.	97.	397	20.43	1.12	307.	118.	457	18.84	1.11	329.	138.
278	20.30	0.52	210.	78.	338	21.46	0.14	383.	97.	398	19.09	0.70	388.	118.	458	21.07	0.39	189.	138.
279	21.13	0.33	330.	78.	339	20.52	0.14	151.	97.	399	20.33	0.35	151.	118.	459	18.91	0.84	184.	138.
280	19.94	0.10	380.	79.	340	19.84	0.19	175.	98.	400	19.83	0.79	57.	118.	460	16.77	1.50	293.	138.
281	17.85	1.12	426.	79.	341	20.88	0.23	210.	98.	401	20.51	0.46	120.	119.	461	20.30	0.37	433.	138.
282	19.32	0.90	400.	80.	342	20.82	0.32	410.	99.	402	20.33	0.72	78.	119.	462	19.09	1.07	86.	138.
283	18.60	1.06	314.	81.	343	20.30	0.16	246.	100.	403	19.51	0.42	29.	119.	463	21.07	0.16	221.	138.
284	19.14	0.87	371.	81.	344	21.35	0.93	344.	100.	404	19.61	0.26	195.	119.	464	18.17	0.93	205.	139.
285	20.53	0.81	70.	81.	345	17.96	0.72	295.	100.	405	20.98	0.55	264.	119.	465	20.24	0.47	67.	139.
286	20.76	0.77	26.	81.	346	20.68	0.66	232.	100.	406	18.94	0.91	186.	119.	466	19.32	0.73	227.	139.
287	18.38	1.18	117.	82.	347	20.28	0.57	397.	100.	407	18.40	1.12	367.	120.	467	20.59	0.39	171.	140.
288	17.83	1.28	123.	82.	348	21.19	0.95	307.	101.	408	19.22	1.00	433.	121.	468	19.60	0.85	397.	140.
289	18.96	0.97	142.	82.	349	21.41	0.24	170.	101.	409	19.01	0.57	42.	121.	469	19.81	0.20	271.	140.
290	19.31	0.16	364.	82.	350	19.25	0.99	90.	101.	410	19.26	1.01	281.	121.	470	19.03	1.04	304.	141.
291	21.12	0.53	320.	82.	351	20.69	0.08	183.	101.	411	19.99	0.21	70.	122.	471	21.25	0.87	308.	141.
292	21.20	0.54	244.	83.	352	21.31	0.13	167.	101.	412	19.25	0.04	401.	122.	472	19.09	0.68	266.	142.
293	20.50	0.20	60.	83.	353	20.02	0.28	210.	103.	413	20.80	0.39	358.	122.	473	19.67	0.26	139.	142.
294	21.34	0.55	201.	83.	354	21.17	0.63	423.	103.	414	21.22	0.46	232.	123.	474	20.21	0.05	92.	143.
295	19.33	0.93	68.	84.	355	19.35	0.95	261.	103.	415	18.94	0.43	341.	123.	475	19.84	0.24	228.	143.
296	20.09	1.00	347.	85.	356	21.43	0.61	381.	103.	416	18.46	1.10	215.	123.	476	20.89	0.61	182.	143.
297	20.83	0.79	298.	85.	357	20.97	0.31	426.	103.	417	19.40	0.69	119.	124.	477	21.23	0.75	428.	144.
298	18.93	0.99	44.	87.	358	19.76	0.96	287.	103.	418	21.26	0.29	199.	124.	478	19.56	0.36	212.	144.
299	20.76	0.18	170.	87.	359	21.09	0.55	370.	104.	419	19.69	0.79	246.	124.	479	19.52	0.25	239.	144.
300	21.07	0.48	214.	87.	360	21.12	0.53	374.	105.	420	21.17	0.34	272.	125.	480	20.81	0.44	190.	145.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	19.67	0.22	164.	145.	541	19.17	0.17	195.	164.	601	19.35	0.99	307.	181.	661	19.55	0.21	185.	199.
482	20.89	0.84	326.	145.	542	20.58	0.13	72.	164.	602	18.80	0.29	138.	181.	662	19.38	0.43	93.	199.
483	19.45	0.92	208.	145.	543	20.73	0.64	225.	164.	603	19.81	0.89	335.	181.	663	16.98	1.19	242.	199.
484	19.17	0.74	258.	145.	544	19.12	0.48	231.	165.	604	19.62	0.48	145.	181.	664	20.92	0.28	390.	199.
485	19.77	0.19	222.	145.	545	19.13	0.70	259.	166.	605	20.00	0.38	197.	181.	665	20.27	0.51	200.	199.
486	20.53	0.23	34.	147.	546	21.00	0.56	210.	166.	606	19.47	0.82	293.	182.	666	20.43	0.13	308.	200.
487	20.51	0.26	372.	148.	547	19.50	0.04	13.	166.	607	19.78	0.12	64.	183.	667	19.83	-0.16	331.	200.
488	19.37	0.30	208.	149.	548	19.03	0.79	217.	166.	608	20.95	0.51	407.	183.	668	19.15	0.73	155.	200.
489	19.69	0.75	412.	149.	549	20.87	0.17	239.	166.	609	16.15	1.57	179.	184.	669	19.23	0.28	174.	201.
490	19.08	0.76	172.	149.	550	20.28	0.54	353.	166.	610	19.98	1.08	331.	184.	670	20.72	0.42	433.	201.
491	20.14	0.22	149.	149.	551	20.32	1.03	54.	167.	611	20.62	0.54	220.	184.	671	20.52	0.00	58.	201.
492	19.85	0.11	421.	149.	552	20.20	0.45	73.	167.	612	19.09	0.74	153.	185.	672	18.54	0.04	229.	201.
493	21.05	1.19	341.	150.	553	19.12	0.27	93.	167.	613	18.67	1.17	371.	185.	673	18.79	0.63	86.	201.
494	20.88	0.38	262.	150.	554	19.28	0.67	77.	168.	614	20.39	0.52	215.	185.	674	20.20	0.13	268.	201.
495	18.01	1.06	109.	150.	555	21.20	0.00	426.	168.	615	19.44	0.79	349.	185.	675	19.51	0.90	187.	201.
496	19.60	1.20	289.	151.	556	21.25	0.08	424.	168.	616	19.41	0.24	163.	185.	676	20.47	0.44	37.	202.
497	20.85	0.21	192.	151.	557	20.35	1.25	259.	168.	617	20.17	0.25	193.	186.	677	19.17	0.97	393.	202.
498	19.57	0.26	237.	151.	558	19.12	0.50	223.	168.	618	20.46	0.22	209.	186.	678	21.33	0.26	312.	202.
499	19.31	0.16	302.	152.	559	20.55	0.25	169.	169.	619	21.03	0.42	299.	186.	679	20.04	0.20	236.	202.
500	19.74	0.34	222.	152.	560	19.66	0.38	102.	169.	620	18.49	0.02	34.	186.	680	17.88	1.11	279.	203.
501	20.03	0.25	219.	152.	561	19.85	0.69	100.	169.	621	20.75	0.21	251.	186.	681	18.39	0.20	121.	203.
502	18.88	0.92	39.	152.	562	18.82	0.90	197.	169.	622	19.08	0.90	124.	186.	682	20.48	0.41	192.	203.
503	20.62	-0.34	56.	152.	563	20.42	0.69	247.	169.	623	19.23	1.09	139.	187.	683	19.33	0.19	54.	203.
504	20.37	-0.38	82.	153.	564	19.01	0.16	224.	169.	624	19.18	0.91	66.	187.	684	18.82	0.24	154.	204.
505	20.76	0.88	405.	153.	565	19.33	0.93	45.	170.	625	20.69	0.89	421.	188.	685	20.50	0.22	253.	204.
506	20.39	0.32	297.	153.	566	19.16	0.89	351.	170.	626	19.89	0.11	258.	188.	686	21.37	0.39	385.	205.
507	19.14	0.06	245.	153.	567	18.71	0.14	206.	170.	627	19.17	0.85	161.	188.	687	18.97	0.55	160.	205.
508	21.06	0.33	394.	154.	568	20.81	0.41	362.	170.	628	21.36	0.14	219.	188.	688	20.42	0.36	323.	205.
509	19.96	0.45	113.	154.	569	18.91	0.22	128.	171.	629	20.55	0.41	239.	189.	689	18.86	0.88	316.	206.
510	20.02	0.42	361.	154.	570	21.01	0.53	401.	171.	630	18.76	0.31	172.	189.	690	21.46	0.06	424.	206.
511	19.91	0.21	304.	155.	571	19.67	1.00	335.	171.	631	19.49	0.80	232.	189.	691	20.06	0.18	220.	206.
512	17.90	1.07	210.	155.	572	20.16	0.15	338.	172.	632	20.00	0.19	247.	189.	692	19.07	-0.01	135.	207.
513	19.39	0.29	81.	155.	573	18.93	0.88	21.	172.	633	19.08	0.88	353.	190.	693	19.01	0.85	81.	207.
514	21.10	0.89	375.	156.	574	16.63	1.72	185.	172.	634	20.10	0.05	150.	191.	694	19.91	0.18	184.	207.
515	19.07	0.07	143.	156.	575	19.24	1.05	294.	172.	635	21.08	0.60	184.	191.	695	19.27	0.65	197.	207.
516	20.16	0.21	164.	156.	576	18.40	0.88	42.	173.	636	20.88	0.28	403.	191.	696	18.97	0.10	106.	207.
517	19.21	0.26	136.	156.	577	16.65	0.79	408.	173.	637	19.20	0.94	298.	191.	697	19.74	0.84	38.	208.
518	20.32	0.96	333.	156.	578	18.91	0.77	289.	174.	638	19.35	0.22	225.	192.	698	19.26	0.21	58.	208.
519	18.56	0.81	348.	156.	579	20.18	0.71	177.	174.	639	16.79	1.69	434.	192.	699	19.48	1.27	401.	208.
520	18.88	0.78	130.	157.	580	19.57	0.27	54.	174.	640	20.41	0.28	317.	192.	700	19.54	0.45	377.	208.
521	20.58	0.24	53.	158.	581	17.46	1.25	122.	175.	641	18.87	0.20	42.	193.	701	18.79	0.61	155.	208.
522	20.91	0.35	187.	158.	582	20.80	0.37	232.	175.	642	18.96	0.87	72.	193.	702	19.20	0.57	243.	209.
523	20.89	0.81	326.	158.	583	20.20	0.28	363.	175.	643	20.60	0.50	372.	193.	703	19.45	0.20	164.	209.
524	17.78	0.86	317.	158.	584	20.86	0.18	369.	176.	644	20.81	0.38	211.	193.	704	18.89	0.24	205.	209.
525	20.42	0.63	341.	158.	585	19.40	0.86	307.	176.	645	20.96	0.42	321.	194.	705	18.67	1.12	249.	210.
526	20.36	0.76	395.	159.	586	20.92	0.47	342.	176.	646	20.53	0.93	303.	194.	706	19.72	0.10	296.	210.
527	20.60	0.26	184.	159.	587	18.28	0.76	319.	177.	647	20.58	0.82	389.	194.	707	18.67	0.53	176.	210.
528	19.25	0.15	220.	159.	588	18.13	1.08	281.	177.	648	21.27	0.51	208.	194.	708	18.31	1.09	283.	210.
529	20.82	0.71	206.	159.	589	19.92	0.37	65.	177.	649	20.87	0.41	249.	194.	709	19.26	0.93	231.	211.
530	19.55	0.23	115.	159.	590	19.09	0.22	153.	177.	650	20.70	0.97	337.	194.	710	19.98	0.13	236.	211.
531	21.11	0.41	301.	160.	591	19.25	0.57	312.	178.	651	21.22	0.53	202.	195.	711	19.21	0.14	184.	211.
532	19.91	0.20	152.	160.	592	19.63	1.08	213.	178.	652	20.39	0.64	403.	195.	712	19.50	0.22	198.	211.
533	19.22	0.07	156.	160.	593	20.78	0.17	198.	178.	653	17.66	1.15	14.	195.	713	19.79	0.14	192.	211.
534	20.17	0.08	12.	161.	594	19.56	1.41	178.	178.	654	19.91	0.52	116.	196.	714	20.91	0.38	303.	211.
535	19.27	0.63	124.	161.	595	19.37	0.56	116.	179.	655	20.58	0.27	255.	197.	715	18.52	0.14	221.	212.
536	20.74	0.36	180.	162.	596	21.11	0.21	257.	179.	656	17.66	1.16	190.	197.	716	19.58	0.24	237.	212.
537	20.64	0.67	346.	162.	597	19.37	0.24	50.	179.	657	20.98	0.30	306.	197.	717	19.46	-0.09	148.	212.
538	21.42	0.61	168.	163.	598	19.37	0.89	95.	180.	658	21.14	0.21	211.	197.	718	21.04	0.04	214.	212.
539	19.77	0.28	83.	163.	599	18.02	0.50	167.	180.	659	19.39	0.93	429.	198.	719	19.48	0.89	226.	212.
540	18.97	0.22	94.	163.	600	18.91	0.96	206.	180.	660	19.14	0.19	170.	198.	720	18.19	0.08	154.	212.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	18.40	0.87	116.	212.	781	18.28	0.99	108.	228.	841	18.40	0.45	197.	244.	901	20.44	1.02	233.	257.
722	17.48	1.31	16.	212.	782	18.26	1.12	164.	229.	842	18.65	1.05	291.	244.	902	17.53	1.05	126.	257.
723	17.09	0.74	136.	212.	783	19.06	1.00	187.	229.	843	20.63	0.15	219.	244.	903	19.02	1.21	99.	257.
724	19.28	0.80	244.	212.	784	17.87	0.80	145.	229.	844	21.35	0.43	321.	245.	904	19.14	0.47	252.	257.
725	21.13	-0.29	289.	213.	785	17.97	0.73	144.	229.	845	20.34	0.32	357.	245.	905	18.20	0.55	152.	257.
726	19.93	0.39	252.	213.	786	17.90	0.33	149.	230.	846	21.27	0.25	264.	245.	906	19.04	0.84	365.	257.
727	20.65	0.40	262.	213.	787	17.96	0.16	151.	230.	847	17.75	1.21	394.	245.	907	18.80	0.15	187.	257.
728	20.95	0.16	298.	214.	788	21.04	0.28	227.	230.	848	20.06	0.18	58.	245.	908	17.52	1.42	127.	257.
729	19.08	0.85	280.	214.	789	19.05	0.59	25.	230.	849	17.99	0.32	181.	245.	909	18.49	0.97	145.	258.
730	19.13	0.70	169.	214.	790	18.53	0.29	211.	230.	850	20.51	0.30	328.	246.	910	18.63	0.75	336.	258.
731	19.30	0.88	369.	216.	791	18.16	0.62	128.	230.	851	21.06	0.29	346.	247.	911	19.05	0.30	258.	259.
732	18.49	0.99	209.	216.	792	21.25	0.18	304.	231.	852	19.22	0.22	194.	247.	912	20.80	0.35	76.	259.
733	18.37	0.32	154.	216.	793	19.39	0.21	239.	231.	853	19.62	0.30	44.	247.	913	18.20	0.67	141.	259.
734	19.30	0.70	192.	216.	794	20.52	0.08	397.	231.	854	21.13	0.22	344.	247.	914	20.84	0.45	373.	259.
735	21.07	0.22	309.	216.	795	19.21	0.88	66.	231.	855	18.10	0.65	200.	248.	915	17.99	1.11	22.	259.
736	19.50	0.29	205.	216.	796	17.67	0.84	116.	231.	856	20.76	0.02	29.	248.	916	16.23	1.42	162.	259.
737	19.16	0.77	112.	217.	797	19.12	0.28	178.	231.	857	18.30	0.81	168.	249.	917	18.62	0.79	148.	259
738	21.01	0.33	305.	217.	798	18.33	0.35	128.	231.	858	19.71	0.32	324.	249.	918	20.52	0.48	416.	260.
739	21.01	0.40	362.	217.	799	21.16	0.82	326.	231.	859	18.16	0.20	175.	249.	919	19.47	0.71	384.	260.
740	19.46	0.08	177.	217.	800	19.23	0.28	40.	232.	860	20.60	0.28	287.	249.	920	19.29	0.19	93.	260.
741	19.45	0.22	230.	217.	801	19.06	0.17	211.	232.	861	20.28	0.24	214.	249.	921	20.74	0.23	297.	261.
742	18.65	0.20	178.	217.	802	18.61	0.65	183.	232.	862	18.83	0.41	155.	249.	922	19.32	0.24	210.	261.
743	20.15	0.21	269.	217.	803	18.45	0.57	197.	232.	863	18.17	0.36	133.	249.	923	17.32	1.26	27.	261.
744	18.22	0.99	167.	217.	804	20.68	0.23	272.	233.	864	20.57	0.67	56.	249.	924	19.13	0.34	104.	261.
745	20.36	0.33	249.	219.	805	20.66	0.28	360.	234.	865	19.15	0.86	408.	249.	925	18.20	0.97	97.	261.
746	19.47	0.19	100.	219.	806	18.46	0.79	88.	235.	866	18.13	0.17	123.	249.	926	20.55	0.54	273.	262.
747	19.43	0.12	190.	219.	807	19.41	0.85	290.	235.	867	19.14	0.72	300.	250.	927	19.74	0.06	190.	262.
748	19.49	0.93	398.	219.	808	18.44	0.16	174.	236.	868	19.49	0.33	223.	250.	928	19.30	0.34	121.	262.
749	19.34	0.20	173.	220.	809	19.46	0.14	168.	236.	869	17.72	0.27	205.	250.	929	21.14	0.43	301.	262.
750	19.84	0.65	199.	220.	810	18.76	0.22	129.	236.	870	20.69	0.30	52.	250.	930	20.04	0.28	58.	263.
751	19.04	0.90	227.	221.	811	19.67	0.09	162.	236.	871	19.34	0.90	63.	250.	931	21.14	0.22	251.	263.
752	20.28	0.46	27.	221.	812	18.69	0.19	190.	236.	872	20.92	0.34	405.	250.	932	17.83	0.27	183.	263.
753	19.19	0.21	155.	221.	813	20.30	0.15	235.	236.	873	16.77	3.84	238.	250.	933	20.03	0.22	261.	263.
754	17.08	1.58	11.	221.	814	20.64	0.52	418.	236.	874	19.71	1.02	11.	250.	934	18.41	0.88	362.	263.
755	19.85	0.17	159.	221.	815	20.11	0.19	64.	236.	875	18.16	0.83	129.	250.	935	19.93	-0.16	113.	264.
756	19.16	0.80	380.	222.	816	17.47	0.35	331.	237.	876	17.80	0.79	129.	250.	936	19.28	1.19	20.	264.
757	18.54	0.49	164.	223.	817	19.12	0.63	251.	237.	877	18.23	0.85	128.	251.	937	19.21	1.09	208.	264.
758	18.33	0.40	192.	223.	818	18.93	0.80	21.	238.	878	19.72	0.51	8.	251.	938	19.27	0.22	55.	264.
759	19.27	0.72	114.	223.	819	19.15	0.21	83.	238.	879	18.77	0.92	101.	251.	939	19.91	0.58	431.	264.
760	19.22	0.07	180.	223.	820	18.43	0.83	141.	238.	880	18.47	0.15	122.	251.	940	17.98	0.55	143.	265.
761	19.03	0.61	351.	223.	821	19.71	-0.05	206.	238.	881	19.53	0.30	47.	252.	941	19.71	0.10	426.	265.
762	19.42	0.93	275.	224.	822	19.33	0.15	230.	238.	882	19.15	0.59	189.	252.	942	19.78	0.18	103.	265.
763	17.49	1.11	361.	224.	823	18.38	0.23	123.	239.	883	18.53	0.42	133.	252.	943	19.42	1.04	246.	265.
764	19.17	0.03	167.	224.	824	20.77	0.49	407.	239.	884	19.35	0.28	259.	253.	944	19.09	0.19	111.	265.
765	20.99	0.48	254.	224.	825	20.13	0.38	168.	239.	885	17.74	1.11	328.	253.	945	20.36	0.27	327.	266.
766	19.03	0.80	219.	224.	826	19.26	0.24	182.	239.	886	20.76	0.18	343.	253.	946	16.07	1.73	161.	266.
767	17.80	0.87	138.	224.	827	17.52	0.56	155.	239.	887	19.05	0.53	296.	254.	947	19.84	0.63	201.	266.
768	17.69	1.23	152.	225.	828	21.41	0.27	411.	239.	888	20.92	0.47	434.	254.	948	19.49	0.70	276.	266.
769	17.67	1.14	153.	225.	829	18.32	1.01	190.	240.	889	17.79	0.67	117.	254.	949	20.02	0.14	313.	266.
770	18.47	0.77	211.	225.	830	18.56	0.85	89.	240.	890	18.40	0.07	172.	254.	950	19.33	0.74	91.	267.
771	20.80	0.33	296.	225.	831	19.59	0.11	103.	241.	891	17.92	0.74	156.	254.	951	19.59	0.26	293.	267.
772	18.70	0.98	173.	225.	832	19.59	1.01	241.	241.	892	20.06	0.53	57.	255.	952	19.97	0.28	230.	267.
773	20.73	0.29	223.	226.	833	19.08	0.15	193.	241.	893	19.37	1.81	295.	255.	953	19.79	0.33	257.	267.
774	18.17	0.54	125.	226.	834	18.23	1.16	108.	242.	894	18.41	0.68	180.	255.	954	20.11	0.25	213.	268.
775	19.29	0.75	49.	227.	835	18.67	0.09	176.	242.	895	21.21	0.40	399.	255.	955	18.52	1.21	222.	268.
776	21.07	0.23	229.	227.	836	19.37	0.21	213.	242.	896	20.13	0.28	270.	255.	956	19.66	0.32	26.	268.
777	20.01	0.29	158.	227.	837	18.31	0.51	208.	243.	897	18.11	0.22	124.	255.	957	20.16	-0.24	70.	268.
778	20.09	0.79	288.	227.	838	19.84	0.22	60.	243.	898	19.78	0.02	202.	255.	958	18.12	0.56	164.	268.
779	18.85	0.53	197.	228.	839	18.54	0.58	163.	243.	899	18.48	0.63	264.	255.	959	19.82	0.41	128.	269.
780	19.78	0.69	177.	228.	840	21.40	0.85	381.	243.	900	21.44	0.66	289.	256.	960	20.58	0.41	232.	269.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	19.01	0.81	98.	269.	1021	19.90	0.19	207.	285.	1081	20.77	0.37	279.	295.	1141	19.38	0.83	235.	309.
962	18.19	0.36	189.	269.	1022	19.39	0.23	230.	285.	1082	19.65	0.26	45.	296.	1142	20.00	0.28	74.	309.
963	19.96	1.00	72.	269.	1023	19.47	0.20	414.	285.	1083	20.86	0.77	357.	296.	1143	17.55	1.24	419.	309.
964	18.27	1.01	200.	270.	1024	19.74	0.25	87.	285.	1084	19.08	0.77	153.	297.	1144	20.26	0.87	249.	310.
965	18.89	0.79	43.	270.	1025	18.93	0.97	347.	285.	1085	20.56	0.25	234.	297.	1145	20.97	0.65	187.	310.
966	16.38	1.20	170.	270.	1026	19.35	0.77	45.	285.	1086	17.03	1.03	32.	298.	1146	19.23	0.30	61.	310.
967	21.21	0.32	360.	270.	1027	18.48	0.71	323.	285.	1087	20.11	0.21	218.	298.	1147	19.06	0.49	197.	310.
968	20.68	0.21	274.	270.	1028	19.17	0.18	156.	285.	1088	19.23	0.93	48.	298.	1148	19.26	0.98	103.	311.
969	19.16	0.91	209.	271.	1029	21.11	0.84	434.	285.	1089	21.31	0.47	285.	298.	1149	17.72	0.95	203.	311.
970	20.12	0.14	247.	271.	1030	19.49	0.13	136.	285.	1090	20.10	0.23	215.	298.	1150	18.02	1.08	362.	311.
971	18.90	0.70	325.	271.	1031	20.45	0.79	280.	285.	1091	19.39	0.28	185.	298.	1151	18.85	1.01	404.	311.
972	19.69	0.13	184.	272.	1032	19.19	0.52	199.	285.	1092	20.39	0.36	357.	299.	1152	21.32	0.75	262.	312.
973	16.57	1.34	136.	272.	1033	18.87	0.76	276.	285.	1093	19.75	0.33	195.	299.	1153	18.61	0.91	196.	312.
974	21.14	0.34	380.	272.	1034	19.34	0.95	373.	285.	1094	20.06	0.32	112.	299.	1154	21.21	0.57	337.	313.
975	19.74	-0.05	123.	272.	1035	18.46	0.67	236.	286.	1095	19.74	0.25	370.	300.	1155	19.25	0.12	117.	313.
976	18.51	0.30	146.	273.	1036	19.50	0.19	227.	287.	1096	20.25	0.41	341.	300.	1156	20.93	0.54	349.	313.
977	21.13	0.29	255.	273.	1037	18.83	0.69	388.	287.	1097	19.54	0.91	367.	300.	1157	21.25	0.22	256.	313.
978	20.56	0.30	268.	273.	1038	18.74	0.12	267.	287.	1098	20.79	0.27	58.	301.	1158	20.84	0.34	168.	314.
979	20.16	0.38	303.	274.	1039	20.06	0.16	318.	287.	1099	19.75	0.15	23.	301.	1159	19.61	0.26	297.	314.
980	21.00	1.22	341.	274.	1040	20.76	0.25	423.	287.	1100	19.34	0.92	297.	301.	1160	20.36	0.49	356.	314.
981	20.31	0.37	220.	274.	1041	19.49	0.17	180.	287.	1101	19.95	0.09	70.	301.	1161	20.31	0.32	77.	314.
982	20.30	0.22	363.	274.	1042	21.20	0.26	292.	288.	1102	20.49	0.42	417.	301.	1162	19.82	0.12	275.	314.
983	19.48	0.42	126.	275.	1043	20.00	0.36	328.	288.	1103	19.13	0.23	121.	302.	1163	19.88	-0.13	35.	315.
984	19.40	0.28	126.	275.	1044	20.36	0.19	15.	288.	1104	21.03	0.54	258.	303.	1164	20.47	0.32	391.	315.
985	18.84	0.23	81.	275.	1045	18.89	0.58	171.	288.	1105	19.95	0.77	357.	303.	1165	20.78	0.11	375.	315.
986	18.61	0.42	179.	275.	1046	18.59	0.05	201.	288.	1106	18.86	0.06	388.	303.	1166	19.44	1.15	67.	315.
987	19.32	-0.05	108.	276.	1047	17.77	1.07	189.	288.	1107	19.57	0.98	12.	303.	1167	17.14	1.11	195.	315.
988	18.35	1.85	111.	276.	1048	17.71	1.01	190.	288.	1108	20.64	-0.19	196.	303.	1168	18.02	1.19	182.	315.
989	17.87	1.27	164.	276.	1049	20.53	0.80	296.	288.	1109	19.68	0.73	155.	304.	1169	20.96	0.13	231.	316.
990	19.17	0.87	40.	276.	1050	19.29	0.01	216.	288.	1110	19.25	1.02	36.	304.	1170	17.99	1.09	182.	316.
991	21.01	0.52	201.	276.	1051	18.91	0.22	86.	289.	1111	18.98	0.81	191.	304.	1171	21.21	0.17	300.	316.
992	19.42	0.77	186.	276.	1052	19.60	1.13	110.	289.	1112	19.33	0.00	346.	304.	1172	20.01	0.21	271.	316.
993	19.01	0.85	357.	276.	1053	18.58	0.68	193.	289.	1113	19.17	0.20	136.	304.	1173	20.05	0.20	247.	316.
994	18.58	0.77	147.	276.	1054	18.51	0.65	194.	289.	1114	20.77	0.82	261.	305.	1174	19.88	0.27	281.	316.
995	21.30	0.12	300.	277.	1055	19.03	0.35	86.	289.	1115	21.20	0.96	337.	305.	1175	18.92	0.36	386.	317.
996	18.87	0.96	190.	277.	1056	19.52	0.85	283.	290.	1116	19.37	0.30	84.	305.	1176	19.92	0.38	116.	317.
997	18.69	0.33	139.	278.	1057	20.03	0.73	215.	290.	1117	20.07	0.24	168.	305.	1177	20.50	-0.02	396.	317.
998	18.44	0.18	249.	279.	1058	20.35	0.40	308.	290.	1118	20.49	0.65	418.	305.	1178	19.36	0.32	187.	317.
999	19.01	0.27	131.	279.	1059	19.36	0.18	349.	290.	1119	21.05	0.26	295.	305.	1179	20.86	0.65	376.	317.
1000	18.01	1.32	350.	279.	1060	18.99	0.13	178.	291.	1120	19.04	1.50	163.	305.	1180	19.59	0.41	124.	317.
1001	19.63	0.11	221.	280.	1061	20.53	0.22	56.	291.	1121	18.31	0.65	138.	306.	1181	19.30	1.01	429.	317.
1002	19.45	0.90	227.	280.	1062	20.44	0.82	278.	291.	1122	18.49	0.26	162.	306.	1182	21.06	0.50	294.	318.
1003	19.23	1.60	99.	280.	1063	19.55	0.19	156.	291.	1123	21.20	0.67	273.	306.	1183	19.54	0.35	17.	318.
1004	19.64	0.07	95.	280.	1064	19.36	0.74	263.	292.	1124	19.14	1.12	110.	306.	1184	21.09	0.54	373.	318.
1005	18.61	0.42	171.	280.	1065	18.93	0.77	160.	292.	1125	19.28	1.14	6.	307.	1185	18.14	0.95	70.	319.
1006	19.21	0.61	242.	280.	1066	20.66	0.39	222.	292.	1126	18.70	0.69	240.	307.	1186	20.59	0.51	26.	319.
1007	18.45	0.09	179.	280.	1067	20.25	0.88	90.	292.	1127	18.44	0.07	229.	307.	1187	19.35	0.02	157.	319.
1008	19.11	0.80	84.	281.	1068	16.78	1.66	186.	292.	1128	18.83	0.72	241.	307.	1188	20.59	0.22	291.	320.
1009	18.99	0.72	57.	281.	1069	20.01	0.28	340.	293.	1129	21.02	0.38	379.	307.	1189	18.89	0.72	141.	320.
1010	19.98	0.19	209.	281.	1070	16.74	1.58	187.	293.	1130	21.45	0.88	268.	307.	1190	19.56	0.34	24.	320.
1011	21.10	0.15	355.	281.	1071	20.28	0.23	167.	293.	1131	19.34	0.18	236.	307.	1191	18.22	1.11	207.	320.
1012	20.54	0.25	410.	281.	1072	19.10	0.88	230.	294.	1132	19.74	0.33	197.	307.	1192	18.59	0.14	103.	322.
1013	20.39	0.33	78.	282.	1073	19.51	0.17	193.	294.	1133	20.00	0.38	209.	308.	1193	19.17	0.41	204.	322.
1014	17.35	1.62	257.	282.	1074	20.01	0.16	372.	294.	1134	19.41	0.62	425.	308.	1194	21.20	0.83	318.	322.
1015	20.69	0.40	193.	282.	1075	21.24	0.14	402.	294.	1135	19.15	0.30	87.	308.	1195	20.49	0.35	93.	322.
1016	18.95	0.08	115.	283.	1076	19.86	0.10	251.	294.	1136	19.37	0.92	205.	308.	1196	18.87	0.06	177.	322.
1017	18.62	0.70	27.	283.	1077	20.14	0.25	375.	294.	1137	18.26	1.00	306.	308.	1197	18.61	0.53	172.	322.
1018	18.83	0.83	244.	283.	1078	19.28	0.23	239.	295.	1138	21.24	0.55	258.	309.	1198	19.74	0.34	181.	323.
1019	19.44	0.26	172.	284.	1079	19.65	0.24	182.	295.	1139	20.32	0.45	74.	309.	1199	19.81	0.43	139.	323.
1020	19.34	0.57	129.	284.	1080	16.36	1.74	429.	295.	1140	19.35	0.27	300.	309.	1200	18.35	0.87	188.	324.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	20.42	0.35	336.	325.	1261	19.29	0.93	94.	335.	1321	18.63	0.48	363.	354.	1381	19.52	0.14	389.	371.
1202	20.17	0.36	97.	325.	1262	21.32	0.35	430.	336.	1322	20.55	0.85	181.	354.	1382	19.43	0.94	400.	372.
1203	19.92	0.81	246.	325.	1263	18.79	0.78	167.	336.	1323	21.11	0.60	389.	354.	1383	20.39	0.27	228.	372.
1204	21.03	0.44	415.	325.	1264	18.88	0.95	228.	336.	1324	20.82	0.34	373.	354.	1384	19.33	0.34	46.	372.
1205	20.14	0.45	97.	325.	1265	20.93	0.35	199.	336.	1325	21.12	0.03	174.	354.	1385	17.35	1.32	98.	373.
1206	21.26	0.75	240.	326.	1266	19.40	0.99	48.	336.	1326	19.38	0.29	191.	354.	1386	18.95	0.88	243.	373.
1207	19.18	0.34	42.	326.	1267	19.44	1.45	104.	336.	1327	21.02	0.41	369.	355.	1387	19.06	0.73	219.	373.
1208	18.88	0.88	260.	326.	1268	19.26	0.98	19.	337.	1328	19.50	0.80	337.	355.	1388	19.99	0.33	313.	373
1209	18.90	0.86	130.	326.	1269	18.79	0.70	155.	337.	1329	20.60	0.66	398.	355.	1389	19.53	0.65	147.	373.
1210	19.79	0.16	152.	327.	1270	18.34	0.74	101.	338.	1330	20.77	0.54	90.	355.	1390	18.43	1.00	143.	373.
1211	18.56	0.64	278.	327.	1271	19.98	0.19	205.	338.	1331	20.73	0.96	303.	356.	1391	19.86	0.39	131.	374.
1212	20.10	-0.03	177.	327.	1272	19.83	0.28	311.	339.	1332	21.16	0.38	154.	356.	1392	18.14	0.07	359.	374.
1213	19.52	0.73	426.	327.	1273	19.30	0.76	49.	339.	1333	19.00	0.74	115.	356.	1393	19.89	0.93	368.	375.
1214	19.16	0.82	55.	328.	1274	20.92	0.24	197.	339.	1334	19.31	0.18	188.	357.	1394	19.00	0.70	135.	375.
1215	19.30	0.06	272.	328.	1275	20.75	-0.47	159.	339.	1335	17.01	1.47	266.	357.	1395	21.38	0.30	264.	375.
1216	20.89	0.43	196.	328.	1276	20.54	0.06	337.	340.	1336	16.58	-0.11	356.	357.	1396	19.00	0.81	168.	375.
1217	19.81	0.23	249.	328.	1277	19.59	1.02	121.	340.	1337	18.08	0.98	142.	357.	1397	20.52	0.32	113.	375.
1218	20.59	0.40	158.	328.	1278	20.91	0.49	412.	340.	1338	20.85	0.02	346.	357.	1398	21.82	-0.33	162.	376.
1219	19.33	-0.08	70.	328.	1279	19.00	0.94	55.	341.	1339	19.00	0.94	80.	357.	1399	19.53	0.29	59.	376.
1220	20.77	0.24	166.	329.	1280	19.68	0.52	128.	341.	1340	20.04	0.95	225.	357.	1400	21.08	0.94	204.	377.
1221	20.49	0.28	236.	329.	1281	19.09	0.82	180.	341.	1341	20.95	0.54	229.	358.	1401	19.24	0.97	430.	378.
1222	20.70	0.32	336.	329.	1282	19.53	0.13	76.	342.	1342	20.95	0.28	334.	359.	1402	19.50	1.01	209.	378.
1223	19.58	0.16	224.	329.	1283	21.00	0.20	316.	342.	1343	19.81	0.81	256.	359.	1403	20.56	1.07	382.	378.
1224	20.56	0.31	419.	329.	1284	16.82	1.84	229.	342.	1344	20.88	0.37	420.	359.	1404	20.63	0.49	254.	378.
1225	20.34	0.57	74.	329.	1285	16.92	1.54	141.	342.	1345	18.02	0.96	191.	359.	1405	20.53	0.29	69.	379.
1226	19.57	0.71	23.	329.	1286	20.14	0.18	343.	342.	1346	20.88	0.35	175.	360.	1406	19.77	0.96	177.	379.
1227	19.13	0.85	321.	329.	1287	19.40	-0.12	151.	343.	1347	20.43	0.12	247.	361.	1407	20.34	0.23	73.	379.
1228	18.73	1.08	132.	329.	1288	18.80	0.25	222.	344.	1348	19.83	0.27	123.	361.	1408	20.38	0.25	119.	379.
1229	20.29	0.38	422.	330.	1289	19.90	0.19	258.	344.	1349	20.33	0.33	248.	362.	1409	20.86	0.25	311.	379.
1230	20.83	0.13	382.	330.	1290	19.29	-0.14	147.	345.	1350	18.81	0.44	257.	362.	1410	20.24	0.94	303.	379.
1231	19.29	1.07	52.	330.	1291	20.64	0.43	244.	345.	1351	18.50	0.84	277.	362.	1411	21.38	0.30	215.	380.
1232	20.37	0.26	230.	330.	1292	19.60	0.43	241.	345.	1352	20.65	0.22	94.	362.	1412	20.18	0.36	65.	380.
1233	19.47	0.25	259.	330.	1293	21.01	0.28	317.	346.	1353	19.02	0.22	403.	363.	1413	21.26	0.33	323.	380.
1234	18.62	-0.01	345.	331.	1294	19.66	1.06	283.	346.	1354	20.27	0.37	219.	363.	1414	19.28	1.02	248.	381.
1235	20.97	0.33	194.	331.	1295	20.96	0.23	184.	346.	1355	20.52	0.27	421.	363.	1415	18.56	1.02	363.	381.
1236	20.44	0.48	79.	331.	1296	20.47	0.44	198.	347.	1356	19.58	0.40	14.	363.	1416	20.71	0.32	148.	381.
1237	17.70	1.24	298.	331.	1297	19.97	0.28	266.	347.	1357	18.08	0.84	266.	364.	1417	19.54	-0.03	122.	382.
1238	19.22	0.13	213.	331.	1298	19.08	0.17	86.	347.	1358	20.33	0.17	228.	364.	1418	20.90	0.74	180.	382.
1239	19.65	0.04	173.	332.	1299	18.97	0.23	16.	347.	1359	19.49	0.28	117.	364.	1419	18.91	0.06	294.	382.
1240	19.31	0.84	90.	332.	1300	19.00	0.75	361.	348.	1360	20.53	0.34	31.	365.	1420	19.52	0.87	14.	382.
1241	20.64	0.26	282.	332.	1301	20.36	0.21	335.	348.	1361	19.50	0.28	276.	365.	1421	19.66	0.20	403.	382.
1242	20.51	0.86	377.	332.	1302	20.23	0.66	193.	348.	1362	19.53	0.95	102.	365.	1422	19.95	0.19	222.	383.
1243	16.69	0.63	127.	332.	1303	21.24	0.29	414.	348.	1363	21.18	0.42	348.	365.	1423	20.97	1.08	279.	383.
1244	18.84	0.97	393.	332.	1304	19.11	0.90	102.	349.	1364	20.20	0.35	158.	366.	1424	19.83	0.87	198.	383.
1245	19.79	0.72	351.	332.	1305	20.16	0.26	296.	349.	1365	21.18	0.28	207.	367.	1425	18.56	0.49	342.	384.
1246	19.89	0.32	310.	332.	1306	21.04	0.27	319.	349.	1366	19.07	0.86	42.	367.	1426	19.46	0.89	53.	384.
1247	20.11	0.16	160.	333.	1307	19.23	0.88	420.	349.	1367	21.18	0.52	374.	368.	1427	19.38	0.95	203.	384.
1248	20.53	0.23	157.	333.	1308	19.29	0.77	95.	349.	1368	20.55	0.39	76.	368.	1428	20.59	0.56	430.	384.
1249	19.88	0.18	177.	333.	1309	19.16	0.84	121.	350.	1369	19.66	0.79	391.	368.	1429	19.23	0.90	303.	384.
1250	19.22	0.30	66.	333.	1310	18.97	1.01	324.	350.	1370	19.78	0.06	172.	369.	1430	20.34	0.11	122.	384.
1251	20.05	0.71	34.	334.	1311	19.39	0.83	201.	350.	1371	20.42	0.26	24.	369.	1431	20.49	0.28	376.	384.
1252	19.07	0.83	421.	334.	1312	21.21	0.16	156.	350.	1372	21.08	0.32	199.	369.	1432	20.47	0.41	111.	385.
1253	18.98	0.68	114.	335.	1313	20.29	0.31	173.	350.	1373	18.76	0.91	330.	369.	1433	20.45	0.64	288.	385.
1254	21.08	0.37	402.	335.	1314	20.35	0.39	42.	351.	1374	19.94	0.20	298.	370.	1434	19.84	0.28	355.	385.
1255	19.03	0.04	208.	335.	1315	18.44	0.05	75.	352.	1375	21.28	0.32	428.	370.	1435	19.00	0.91	137.	385.
1256	19.31	0.29	293.	335.	1316	19.11	0.05	167.	352.	1376	20.71	0.29	303.	370.	1436	18.94	0.85	412.	386.
1257	20.71	0.45	28.	335.	1317	19.41	0.49	143.	352.	1377	20.65	0.79	349.	370.	1437	19.02	0.40	25.	386.
1258	17.46	1.05	62.	335.	1318	20.52	0.64	32.	352.	1378	20.27	0.20	154.	371.	1438	19.94	0.36	162.	386.
1259	18.38	0.81	142.	335.	1319	19.99	0.02	331.	352.	1379	20.69	0.45	152.	371.	1439	20.57	0.22	330.	387.
1260	20.71	0.63	27.	335.	1320	18.07	1.18	137.	352.	1380	21.22	0.47	188.	371.	1440	21.15	0.26	403.	387.

Table 9a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1441	21.33	-0.12	158.	387.	1495	21.11	1.10	219.	406.	1549	21.12	0.21	167.	425.	1603	19.57	0.26	251.	451.
1442	19.83	0.06	39.	388.	1496	19.56	0.14	247.	406.	1550	20.65	1.15	30.	425.	1604	18.49	1.00	71.	451.
1443	20.09	0.57	338.	388.	1497	20.42	0.26	197.	406.	1551	20.62	0.33	331.	425.	1605	19.11	0.83	293.	452.
1444	20.86	0.45	241.	388.	1498	17.13	1.62	375.	407.	1552	18.35	0.64	430.	426.	1606	16.59	1.69	200.	453.
1445	20.30	0.29	182.	388.	1499	21.10	0.54	289.	407.	1553	21.27	0.23	326.	426.	1607	19.58	-0.06	65.	454.
1446	19.31	0.71	109.	389.	1500	20.08	0.53	20.	408.	1554	19.54	0.25	131.	426.	1608	19.66	0.23	88.	455.
1447	21.29	0.35	349.	389.	1501	20.20	1.04	229.	408.	1555	20.04	0.20	84.	426.	1609	20.51	0.45	297.	456.
1448	19.11	0.11	131.	390.	1502	20.57	0.21	410.	408.	1556	19.47	1.00	206.	427.	1610	19.30	0.94	258.	457.
1449	19.42	0.69	14.	390.	1503	20.19	1.05	230.	409.	1557	20.89	0.07	169.	427.	1611	19.85	1.34	63.	458.
1450	20.36	1.09	268.	390.	1504	20.09	0.33	155.	409.	1558	19.06	0.79	422.	428.	1612	18.58	0.91	277.	459.
1451	18.84	0.54	134.	391.	1505	21.24	0.57	270.	409.	1559	20.67	0.36	389.	428.	1613	18.48	0.02	32.	459.
1452	21.09	0.89	375.	391.	1506	20.56	0.30	340.	409.	1560	21.34	0.31	276.	428.	1614	19.26	0.56	293.	459.
1453	19.19	0.85	333.	391.	1507	18.88	0.90	250.	409.	1561	19.57	0.94	399.	428.	1615	18.93	0.90	275.	463.
1454	20.79	0.37	206.	392.	1508	19.30	0.96	413.	410.	1562	19.14	1.00	233.	428.	1616	19.61	0.18	198.	464.
1455	18.99	0.99	126.	392.	1509	18.31	-0.04	327.	411.	1563	19.70	0.14	187.	429.	1617	19.43	0.96	289.	464.
1456	20.13	0.35	257.	393.	1510	19.27	1.10	430.	411.	1564	19.52	0.84	383.	429.	1618	20.44	1.39	92.	464.
1457	19.83	0.10	346.	393.	1511	20.01	0.76	66.	411.	1565	20.11	0.02	409.	429.	1619	19.69	0.23	82.	465.
1458	19.25	0.92	210.	393.	1512	20.20	0.22	60.	411.	1566	19.77	1.01	374.	429.	1620	18.26	1.10	142.	466.
1459	20.58	0.66	27.	393.	1513	21.04	0.41	395.	411.	1567	20.56	0.38	142.	429.	1621	17.18	0.45	245.	468.
1460	20.39	0.36	185.	394.	1514	18.79	0.84	204.	411.	1568	21.29	0.42	255.	429.	1622	18.39	1.12	100.	469.
1461	20.37	0.38	312.	395.	1515	20.62	0.79	173.	412.	1569	20.81	0.40	404.	430.	1623	19.74	0.13	127.	469.
1462	20.03	0.90	117.	395.	1516	19.31	0.87	421.	413.	1570	20.02	0.24	149.	430.	1624	20.47	0.25	112.	470.
1463	19.06	0.87	67.	395.	1517	21.30	0.42	401.	414.	1571	19.61	0.66	59.	430.	1625	19.16	0.05	88.	473.
1464	20.34	0.42	173.	395.	1518	20.80	0.55	377.	414.	1572	21.35	0.46	199.	430.	1626	19.50	0.92	240.	474.
1465	19.43	0.86	430.	396.	1519	20.20	0.24	190.	415.	1573	20.09	0.88	169.	431.	1627	16.44	1.42	54.	475.
1466	20.64	1.08	371.	396.	1520	19.50	1.19	208.	415.	1574	20.61	0.19	35.	433.	1628	18.61	0.94	139.	475.
1467	20.70	0.50	339.	396.	1521	20.02	0.93	216.	416.	1575	21.02	0.70	258.	434.	1629	20.18	0.06	149.	481.
1468	18.84	-0.04	351.	397.	1522	21.07	0.34	429.	416.	1576	19.41	0.85	168.	435.	1630	19.72	0.06	293.	481.
1469	19.98	0.49	135.	397.	1523	21.02	0.55	382.	417.	1577	20.91	0.23	414.	435.	1631	19.33	0.27	35.	481.
1470	20.35	0.25	46.	397.	1524	18.61	0.93	237.	417.	1578	19.83	0.17	159.	436.	1632	19.85	0.98	121.	482.
1471	19.32	0.82	355.	397.	1525	20.85	0.30	413.	417.	1579	20.65	0.49	314.	436.	1633	19.03	0.85	62.	483.
1472	20.80	0.79	331.	398.	1526	20.05	0.02	324.	417.	1580	19.93	0.89	333.	436.	1634	20.80	0.23	304.	483.
1473	19.30	0.67	273.	398.	1527	19.17	0.24	47.	417.	1581	19.16	0.92	184.	438.	1635	18.31	0.72	68.	483.
1474	18.88	0.80	160.	398.	1528	20.67	0.25	385.	418.	1582	21.38	0.25	259.	438.	1636	19.30	1.07	74.	485.
1475	16.43	1.84	77.	399.	1529	19.19	0.41	334.	418.	1583	19.06	0.85	243.	439.	1637	19.66	0.96	81.	485.
1476	18.43	0.56	163.	399.	1530	19.09	1.01	357.	418.	1584	20.14	0.60	357.	439.	1638	20.38	0.39	299.	486.
1477	19.31	0.76	15.	399.	1531	19.31	0.87	36.	418.	1585	20.78	0.33	195.	440.	1639	19.45	0.21	165.	487.
1478	20.66	0.23	153.	399.	1532	20.76	0.35	397.	418.	1586	18.97	0.85	333.	440.	1640	18.97	0.09	275.	488.
1479	21.12	0.53	433.	400.	1533	20.42	0.15	289.	418.	1587	19.21	0.89	208.	440.	1641	18.67	0.99	182.	489.
1480	19.94	0.24	235.	400.	1534	21.25	0.53	285.	419.	1588	21.05	0.37	297.	440.	1642	17.45	1.43	245.	490.
1481	19.19	1.05	423.	400.	1535	21.04	0.19	372.	419.	1589	20.81	0.28	384.	441.	1643	20.16	0.31	50.	490.
1482	21.40	0.31	288.	401.	1536	20.41	0.58	60.	419.	1590	18.72	0.82	292.	442.	1644	20.74	1.02	288.	491.
1483	20.40	0.16	229.	402.	1537	20.16	0.88	229.	420.	1591	21.22	0.69	374.	442.	1645	19.19	0.83	123.	491.
1484	19.07	0.89	255.	402.	1538	20.65	0.45	381.	420.	1592	19.20	0.60	432.	443.	1646	19.50	0.65	82.	492.
1485	20.80	0.62	406.	402.	1539	19.23	0.82	46.	421.	1593	20.12	0.10	276.	443.	1647	20.87	1.19	202.	493.
1486	17.10	1.37	310.	402.	1540	20.81	0.34	433.	421.	1594	18.79	0.67	426.	443.	1648	18.76	0.62	25.	494.
1487	19.64	0.90	152.	403.	1541	19.65	0.65	248.	421.	1595	20.19	0.88	164.	444.	1649	20.16	1.12	191.	494.
1488	20.49	0.46	181.	404.	1542	19.68	0.20	354.	421.	1596	19.26	1.01	51.	446.	1650	20.48	1.05	85.	494.
1489	20.35	0.40	318.	404.	1543	19.01	0.96	265.	422.	1597	20.83	0.12	251.	447.	1651	20.26	0.21	210.	495.
1490	21.02	0.39	199.	404.	1544	21.38	0.43	279.	422.	1598	19.63	0.19	19.	448.	1652	17.83	1.22	11.	496.
1491	19.73	0.95	434.	404.	1545	19.05	1.09	184.	423.	1599	19.90	1.02	283.	448.	1653	19.90	0.31	223.	496.
1492	19.30	0.99	422.	405.	1546	19.03	0.81	398.	423.	1600	19.20	1.04	46.	448.	1654	19.13	0.85	18.	497.
1493	19.13	0.90	55.	405.	1547	19.34	0.11	175.	423.	1601	20.31	0.47	97.	448.	1655	18.88	1.03	258.	499.
1494	20.59	0.24	162.	405.	1548	21.42	0.18	328.	425.	1602	18.39	0.17	52.	450.					

Table 9b : Magnitudes, Colors and Positions of Stars in the field near NGC 1987.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	18.56	1.07	851	33	61	19.14	0.86	702	193	121	18.92	0.82	713	565	181	19.77	-0.02	944	843
2	19.12	0.76	718	34	62	20.11	0.82	994	196	122	19.79	0.10	707	561	182	19.43	1.03	963	844
3	18.11	1.26	709	38	63	19.48	0.96	729	197	123	19.49	0.19	758	548	183	19.72	0.42	969	842
4	18.93	0.32	709	48	64	19.30	0.82	802	209	124	18.23	0.05	744	559	184	19.48	0.81	1017	850
5	19.93	0.57	704	55	65	19.32	0.96	916	210	125	19.11	1.06	727	559	185	19.05	0.01	631	866
6	18.09	0.92	741	38	66	20.19	1.63	949	216	126	20.13	0.71	834	554	186	18.55	0.88	625	873
7	18.70	1.15	736	40	67	20.07	0.81	961	226	127	20.11	0.55	838	558	187	19.28	-0.14	720	900
8	20.20	0.58	739	48	68	17.39	1.08	746	226	128	19.72	0.95	1019	571	188	18.36	0.87	737	906
9	20.38	0.24	996	38	69	18.38	0.79	741	223	129	18.75	1.08	721	577	189	19.06	0.51	737	912
10	20.26	0.31	991	43	70	20.22	0.41	747	236	130	19.09	1.09	728	583	190	19.25	-0.10	759	923
11	18.20	0.79	1009	45	71	20.38	0.11	753	223	131	19.20	0.84	714	584	191	19.45	0.01	750	926
12	18.06	1.25	1006	52	72	20.21	0.03	729	248	132	18.33	0.69	728	596	192	18.18	0.69	739	928
13	19.32	0.25	1018	73	73	19.21	0.05	637	243	133	18.70	0.73	726	609	193	20.14	0.21	745	922
14	19.08	0.82	1002	59	74	18.79	1.02	884	254	134	19.14	0.86	722	586	194	19.98	0.56	718	932
15	19.28	0.07	1012	39	75	18.94	1.08	900	309	135	19.30	0.95	727	573	195	18.94	0.47	917	944
16	20.47	0.95	1004	38	76	19.16	0.68	894	315	136	19.22	1.17	722	597	196	18.73	0.55	919	939
17	20.39	0.58	997	52	77	19.11	0.78	881	296	137	19.04	0.81	733	597	197	18.34	0.80	932	953
18	19.74	0.45	1013	66	78	19.71	0.69	882	291	138	19.41	0.79	732	611	198	18.44	1.05	927	948
19	19.30	0.76	680	49	79	19.29	0.71	888	307	139	19.41	0.37	721	613	199	18.85	1.00	892	946
20	19.58	1.16	722	60	80	19.41	0.83	784	306	140	18.47	0.82	945	608	200	19.52	0.68	898	943
21	20.10	0.18	697	74	81	19.79	2.01	929	311	141	19.50	0.86	945	617	201	19.13	0.19	728	961
22	18.71	0.17	673	76	82	20.48	0.62	831	313	142	18.41	1.11	958	623	202	19.56	0.21	898	961
23	19.34	0.88	676	83	83	21.35	-0.46	837	314	143	19.77	0.75	940	606	203	19.05	-0.07	903	971
24	19.50	1.04	684	71	84	18.55	0.97	762	321	144	19.47	0.47	948	601	204	19.49	0.37	815	965
25	19.38	0.79	695	63	85	20.04	0.00	749	322	145	18.40	1.03	747	623	205	19.08	0.87	897	987
26	18.86	0.36	679	66	86	20.31	0.07	783	386	146	19.59	0.69	739	633	206	18.57	0.83	911	991
27	20.09	0.21	677	62	87	19.16	0.97	780	426	147	19.64	0.33	755	632	207	18.90	0.77	915	995
28	19.88	0.08	922	66	88	19.01	0.92	792	430	148	19.32	0.07	745	615	208	18.25	1.28	644	998
29	19.34	0.78	813	73	89	18.98	0.47	798	433	149	19.11	0.64	750	616	209	20.27	0.28	662	1001
30	19.95	0.05	812	81	90	19.33	0.51	803	429	150	20.30	-0.02	739	638	210	20.36	0.75	654	1004
31	19.28	0.93	998	71	91	19.58	0.47	803	439	151	19.51	0.88	931	623	211	19.51	-0.06	826	1001
32	20.24	0.30	998	79	92	19.46	0.49	757	440	152	19.53	0.92	709	675	212	19.75	1.08	975	1007
33	18.94	0.98	686	93	93	19.50	0.69	791	450	153	18.91	1.06	715	680	213	18.14	0.88	945	21
34	19.75	0.56	697	98	94	19.55	0.49	800	448	154	18.63	0.35	703	684	214	17.92	0.67	956	34
35	19.74	0.30	704	94	95	18.70	0.79	784	464	155	18.51	1.01	694	686	215	18.96	0.49	951	28
36	17.75	1.30	873	105	96	20.15	0.13	667	451	156	19.01	0.77	726	698	216	18.99	0.55	936	37
37	19.37	0.22	869	110	97	18.86	0.87	675	463	157	19.17	-0.03	727	690	217	19.93	0.66	936	30
38	19.36	0.98	705	114	98	18.61	0.90	673	468	158	19.73	1.15	733	684	218	19.94	0.77	944	35
39	17.46	0.93	679	117	99	18.89	0.78	669	477	159	18.35	1.07	784	707	219	19.86	0.50	776	40
40	20.30	0.22	687	130	100	17.90	1.25	663	480	160	18.77	0.80	961	707	220	19.50	1.06	785	42
41	19.42	0.32	679	130	101	18.72	0.46	661	487	161	17.00	1.40	948	715	221	19.37	-0.03	851	49
42	19.88	1.25	663	122	102	19.84	0.55	885	495	162	18.39	1.09	948	726	222	18.29	0.89	857	60
43	18.11	0.78	854	127	103	20.35	0.24	867	499	163	19.44	1.01	944	721	223	20.16	0.28	843	80
44	17.78	-0.27	853	123	104	19.51	0.98	867	509	164	19.94	0.53	952	704	224	19.08	1.05	835	72
45	18.95	0.26	851	135	105	19.61	0.75	809	503	165	18.85	0.94	951	723	225	18.96	0.45	831	85
46	19.71	0.34	846	126	106	19.42	1.41	640	503	166	20.22	0.57	937	724	226	19.21	0.96	835	60
47	20.90	-0.04	788	135	107	18.02	0.70	626	503	167	19.31	0.90	947	753	227	18.93	0.94	827	57
48	20.50	0.83	792	143	108	17.66	1.12	621	522	168	19.36	1.04	966	755	228	19.72	0.05	864	55
49	19.97	0.29	841	135	109	19.32	0.27	632	525	169	19.32	1.10	697	767	229	19.26	0.26	851	76
50	19.87	1.30	665	140	110	19.38	0.93	639	520	170	20.20	0.18	746	814	230	19.11	0.83	826	85
51	19.47	0.25	675	161	111	19.03	0.07	813	536	171	18.76	1.15	725	817	231	19.86	0.86	837	86
52	20.20	0.86	671	158	112	20.30	0.49	807	537	172	19.07	1.04	721	820	232	19.89	0.30	840	89
53	18.19	1.15	1018	165	113	20.31	0.30	822	536	173	19.63	0.27	726	823	233	19.12	0.59	882	51
54	19.13	-0.04	1028	174	114	20.56	0.10	821	542	174	18.89	0.74	1015	830	234	17.76	1.39	884	84
55	19.40	0.34	1031	186	115	19.79	1.49	837	537	175	19.05	0.91	1020	835	235	18.43	1.15	884	91
56	18.93	0.65	854	180	116	19.06	1.14	858	542	176	19.74	0.73	1013	837	236	18.89	0.84	902	87
57	19.52	0.93	867	180	117	19.20	0.21	853	552	177	19.03	-0.16	926	837	237	18.85	0.34	839	109
58	18.13	1.04	852	191	118	18.99	0.22	707	546	178	18.40	0.92	936	853	238	19.95	0.12	742	105
59	18.70	0.88	882	181	119	19.03	0.34	696	552	179	19.68	1.61	933	851	239	19.42	0.99	639	117
60	19.94	0.17	864	190	120	19.33	0.83	704	553	180	19.29	0.82	946	851	240	18.55	1.05	823	126

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	17.67	0.86	810	128	301	19.57	0.31	629	284	361	19.51	0.86	932	471	421	19.35	0.81	789	543
242	18.70	0.93	817	134	302	18.81	0.66	1004	285	362	19.13	0.83	927	479	422	18.98	0.68	719	536
243	17.64	1.16	814	144	303	18.14	0.81	1001	293	363	19.34	0.59	839	478	423	19.32	1.22	947	538
244	18.88	0.65	812	153	304	19.69	1.04	996	300	364	19.71	1.05	911	476	424	19.20	0.91	947	551
245	19.10	0.67	809	134	305	19.64	0.51	914	285	365	19.67	0.03	713	483	425	18.69	0.00	939	552
246	19.40	0.64	931	135	306	19.22	0.35	938	294	366	16.29	1.77	727	492	426	19.49	0.77	939	558
247	19.11	0.44	922	138	307	19.26	0.10	926	294	367	17.40	1.20	719	503	427	19.14	0.14	927	543
248	18.99	0.87	926	144	308	19.95	1.08	919	297	368	18.83	0.86	706	505	428	19.07	1.01	648	552
249	19.90	0.10	1000	135	309	19.58	0.31	921	290	369	19.10	0.04	733	515	429	18.51	0.46	657	564
250	16.55	1.64	630	143	310	19.90	-0.01	945	291	370	18.88	0.87	719	523	430	18.95	0.80	651	570
251	18.66	0.99	634	158	311	19.42	0.98	862	290	371	19.18	0.46	723	518	431	18.94	0.55	662	572
252	18.62	0.89	627	165	312	17.70	0.82	855	302	372	19.25	1.11	726	509	432	18.77	0.02	667	573
253	18.88	0.87	645	166	313	18.49	0.92	851	307	373	19.72	1.23	681	484	433	19.19	0.86	885	559
254	19.69	0.92	648	155	314	19.40	1.01	871	319	374	19.02	0.68	693	485	434	19.37	0.03	876	564
255	19.23	0.67	686	144	315	20.25	-0.21	835	303	375	18.91	0.03	693	499	435	19.33	0.81	804	573
256	18.65	0.94	693	149	316	17.80	1.14	723	320	376	18.00	1.05	673	505	436	18.66	0.68	849	576
257	20.14	1.39	696	159	317	19.66	1.10	720	333	377	18.63	0.34	691	509	437	17.14	1.41	632	578
258	19.20	0.84	860	150	318	19.11	0.75	720	316	378	19.00	0.01	658	498	438	18.23	-0.01	646	585
259	17.32	1.54	943	156	319	19.23	0.78	735	334	379	18.93	1.02	697	521	439	18.97	0.78	626	561
260	19.79	0.35	934	155	320	19.14	0.82	754	346	380	19.16	0.43	678	497	440	18.85	0.35	650	592
261	17.70	0.96	830	160	321	19.35	0.70	729	352	381	19.59	0.44	681	492	441	17.16	1.69	684	582
262	18.56	0.69	821	161	322	20.03	0.28	724	356	382	19.43	0.65	667	495	442	18.77	0.65	668	591
263	19.03	0.84	824	156	323	19.41	1.09	732	349	383	19.08	0.86	832	488	443	19.27	0.64	691	598
264	14.70	0.66	800	169	324	19.53	0.96	746	351	384	18.04	0.00	851	488	444	18.83	0.84	703	597
265	17.69	0.91	792	178	325	19.01	0.86	740	345	385	15.07	0.12	883	533	445	19.53	0.56	703	592
266	17.94	0.90	804	179	326	18.96	0.64	912	364	386	16.58	1.25	874	540	446	19.69	0.69	688	590
267	18.78	0.94	799	189	327	19.87	-0.19	903	374	387	16.87	1.45	889	517	447	18.84	0.57	635	609
268	17.52	1.25	770	175	328	19.14	0.93	906	359	388	16.88	-0.05	905	514	448	19.70	0.99	639	611
269	18.94	0.76	758	177	329	19.86	0.13	719	375	389	19.66	0.26	903	500	449	19.68	-0.09	789	611
270	18.24	0.95	763	193	330	19.58	0.80	711	375	390	18.49	0.33	885	542	450	18.40	0.68	803	617
271	19.27	0.68	747	188	331	19.79	0.05	1010	388	391	18.47	0.09	884	521	451	19.37	0.16	800	623
272	19.39	0.98	754	192	332	18.40	-0.13	1017	412	392	19.77	1.12	1009	502	452	19.96	0.04	686	624
273	18.75	0.69	753	205	333	17.76	1.31	1017	403	393	17.06	1.20	1008	518	453	18.14	1.04	707	624
274	18.42	0.84	762	205	334	18.01	0.91	1020	398	394	20.05	0.13	1023	523	454	18.79	0.89	698	639
275	18.77	0.86	776	211	335	20.03	-0.03	822	415	395	18.48	1.26	1010	528	455	18.07	1.01	711	634
276	19.90	0.01	748	182	336	20.02	0.25	814	420	396	19.82	0.35	993	510	456	17.68	1.28	955	656
277	20.43	0.87	641	176	337	20.54	0.19	818	423	397	19.68	0.89	826	503	457	18.83	0.83	965	659
278	17.27	1.40	632	185	338	19.81	0.91	829	430	398	18.20	0.39	843	505	458	18.70	0.80	972	652
279	18.36	1.13	623	192	339	19.24	0.62	820	436	399	19.12	0.74	843	512	459	20.47	-0.05	941	634
280	19.07	0.56	628	207	340	19.25	0.76	822	446	400	17.98	0.81	830	520	460	17.05	0.33	951	644
281	19.17	0.91	821	181	341	19.98	0.36	815	445	401	18.59	0.78	837	525	461	17.71	0.87	955	647
282	17.58	0.95	675	198	342	18.02	1.17	854	416	402	19.40	0.36	833	511	462	18.99	0.42	946	648
283	18.36	0.83	666	191	343	18.78	0.66	849	425	403	18.49	0.67	827	517	463	19.55	0.19	942	656
284	19.30	0.14	652	191	344	19.31	0.93	909	417	404	19.78	0.44	800	517	464	19.91	-0.16	945	668
285	18.80	0.89	671	186	345	19.67	0.64	904	418	405	18.07	1.19	748	516	465	19.17	0.16	952	674
286	19.28	1.02	683	186	346	19.47	0.41	684	423	406	18.80	1.07	745	522	466	18.35	0.74	946	681
287	19.61	0.66	687	203	347	18.53	0.67	868	431	407	18.40	1.56	752	520	467	19.35	0.57	966	679
288	19.20	0.86	652	207	348	18.71	0.90	876	437	408	16.61	-0.12	668	542	468	17.96	-0.02	935	695
289	18.34	0.89	647	224	349	19.54	0.53	890	434	409	18.11	0.59	673	537	469	19.19	0.61	974	669
290	18.56	0.82	965	248	350	18.75	0.09	925	434	410	18.19	0.08	671	555	470	19.09	0.67	946	688
291	19.05	0.86	963	255	351	19.30	1.03	915	438	411	18.32	0.77	673	561	471	18.99	0.71	654	708
292	18.04	0.71	909	273	352	20.22	0.33	916	446	412	18.56	-0.04	660	521	472	19.30	0.72	657	715
293	18.93	0.81	891	278	353	19.76	0.71	971	454	413	18.99	0.88	643	536	473	19.85	0.14	701	712
294	19.50	0.89	901	279	354	18.52	0.02	973	464	414	19.11	0.30	652	538	474	19.96	0.05	694	714
295	18.90	0.56	890	272	355	17.68	1.17	981	470	415	17.70	0.01	787	529	475	19.32	0.28	704	733
296	19.44	0.21	909	282	356	19.15	1.01	979	458	416	19.11	0.96	784	547	476	19.34	0.96	695	735
297	18.29	0.72	636	285	357	19.80	0.30	817	456	417	16.91	1.25	788	560	477	19.22	1.28	708	724
298	19.61	0.33	625	275	358	19.25	0.99	813	470	418	19.47	0.65	799	545	478	19.25	1.05	707	717
299	19.50	0.24	620	279	359	19.97	-0.05	817	472	419	19.57	1.06	773	542	479	20.21	0.40	704	707
300	18.59	0.77	627	262	360	19.44	0.89	929	459	420	19.00	0.81	773	565	480	19.10	0.78	698	743

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	19.47	0.74	692	746	541	20.57	0.16	835	991	601	17.84	1.14	949	64	661	18.56	0.90	944	177
482	20.11	0.73	671	714	542	19.84	0.69	654	978	602	18.79	0.59	941	70	662	17.89	1.07	915	186
483	17.26	1.47	673	728	543	19.29	0.97	953	984	603	19.42	0.88	936	80	663	16.70	1.81	931	192
484	19.31	0.70	680	738	544	19.24	0.74	968	988	604	17.53	1.31	952	81	664	19.26	0.89	947	190
485	19.29	1.02	684	749	545	17.56	0.95	942	1004	605	19.41	0.67	933	90	665	18.62	0.96	924	201
486	19.38	0.79	680	721	546	19.09	0.70	952	1002	606	19.56	0.87	929	78	666	18.99	1.12	937	198
487	19.19	1.25	669	732	547	18.29	0.95	946	1014	607	18.89	0.20	963	77	667	19.02	1.09	936	204
488	17.45	1.12	853	721	548	19.05	0.83	962	1014	608	19.66	0.23	966	88	668	20.26	1.28	979	203
489	17.61	1.21	848	717	549	19.42	0.72	943	984	609	19.09	0.46	952	70	669	20.33	1.32	979	203
490	19.64	0.79	837	716	550	19.49	0.80	937	987	610	19.19	0.96	952	87	670	18.52	0.76	883	205
491	19.44	0.43	851	729	551	19.83	0.88	942	993	611	19.64	0.23	934	70	671	18.75	0.85	878	211
492	19.63	1.78	990	737	552	19.58	1.07	936	995	612	19.51	0.19	947	76	672	18.72	0.84	887	215
493	19.62	0.64	986	737	553	20.27	0.59	958	979	613	19.31	1.59	880	66	673	19.43	0.98	871	217
494	17.72	0.07	669	785	554	20.00	0.29	956	1000	614	15.37	0.62	729	86	674	19.24	0.93	888	222
495	18.69	0.15	666	781	555	17.19	1.16	1002	1007	615	16.63	-0.02	725	93	675	19.47	0.72	870	226
496	18.83	0.05	677	788	556	18.40	1 10	1007	1007	616	17.19	1.18	792	95	676	18.88	1.02	888	231
497	17.65	1.31	991	804	557	19.80	0.37	1009	995	617	18.99	0.64	641	96	677	18.81	0.61	1014	205
498	18.78	0.88	994	817	558	18.91	0.74	881	999	618	19.27	1.08	649	109	678	17.00	0.92	1026	210
499	18.24	1.32	985	807	559	18.72	0.73	887	1011	619	18.77	0.13	657	102	679	17.97	1.21	1019	219
500	20.03	0.60	996	824	560	18.90	0.31	902	1012	620	19.96	0.11	753	99	680	16.74	1.65	1001	219
501	19.37	0.86	936	806	561	18.96	0.67	902	1007	621	19.84	0.22	927	97	681	18.54	1.21	993	229
502	18.37	0.70	943	82)	562	18.60	0.98	888	1006	622	19.10	0.67	729	106	682	18.54	1.06	987	219
503	19.36	0.10	950	823	563	19.64	0.66	877	991	623	16.86	1.39	725	122	683	19.07	1.25	988	209
504	19.21	0.46	820	869	564	19.91	0.90	885	993	624	18.21	0.99	728	130	684	19.34	0.15	1000	241
505	19.81	0.96	816	866	565	17.08	0.90	824	31	625	17.81	1.01	808	107	685	18.87	0.83	699	214
506	18.96	1.06	1016	885	566	18.00	0.97	814	41	626	16.59	1.39	1015	110	686	17.93	1.02	708	228
507	19.31	0.44	1026	888	567	18.39	1.05	833	33	627	18.42	1.02	1028	124	687	18.83	0.82	678	221
508	18.97	0.92	648	916	568	18.20	0.29	919	32	628	19.49	1.03	1018	130	688	18.61	1.11	711	226
509	18.55	1.02	663	917	569	18.46	0.78	904	34	629	18.47	0.60	1028	133	689	18.97	0.60	695	224
510	20.00	0.34	649	927	570	18.23	0.05	906	48	630	17.47	1.04	1038	114	690	19.12	0.67	687	227
511	19.48	0.84	648	935	571	18.87	0.65	908	54	631	19.45	0.92	1039	101	691	20.04	0.42	676	216
512	18.67	0.08	886	918	572	19.41	0.71	905	43	632	18.89	0.44	1008	109	692	19.71	0.69	900	213
513	19 11	0.68	889	926	573	18.90	0.68	893	69	633	18.94	1.13	1030	118	693	19.62	-0.07	721	217
514	19.02	0.67	898	923	574	18.47	1.13	878	37	634	19.19	0.22	1034	109	694	19.61	0.74	783	230
515	19.50	0.67	879	937	575	20.68	0.17	868	39	635	19.55	0.05	1030	94	695	18.98	0.08	787	239
516	19.54	0.28	872	931	576	17.51	1.05	880	26	636	18.82	0.52	782	121	696	18.89	0.72	790	248
517	19.53	0.55	870	924	577	19.11	0.92	637	48	637	19.40	0.71	1006	125	697	19.21	0.98	799	258
518	19.35	0.35	812	946	578	18.73	0.71	639	37	638	18.33	0.90	881	130	698	18.69	0.93	850	227
519	19.43	0.18	841	951	579	19.68	-0.17	640	33	639	17.87	1.46	870	138	699	19.06	0.93	840	231
520	18.96	0.72	845	961	580	20.20	0.51	755	37	640	19.14	0.86	741	135	700	19.35	1.01	835	238
521	19.37	0.97	830	944	581	19.50	0.66	763	42	641	18.14	0.54	707	137	701	18.71	0.98	834	245
522	20.22	0.50	824	946	582	19.09	0.84	646	52	642	16.55	1.55	718	155	702	19.61	0.93	921	228
523	19.30	0.94	705	947	583	20.32	0.85	652	60	643	19.67	0.32	732	158	703	19.07	0.75	828	231
524	19.17	0.19	639	951	584	19.42	1.09	651	72	644	20.57	-0.19	733	167	704	19.05	1.29	809	232
525	18.61	0.76	859	951	585	18.80	0.86	650	82	645	18.56	0.23	731	146	705	19.09	0.79	803	242
526	18.51	0.51	862	958	586	19.79	0.44	640	85	646	18.73	0.70	764	151	706	19.79	0.49	860	232
527	18.93	0.76	867	967	587	18.61	0.54	659	89	647	18.88	0.80	751	156	707	17.61	0.74	662	238
528	19.20	0.69	861	963	588	19.17	0.88	628	83	648	19.76	0.25	750	159	708	18.46	0.94	657	231
529	18.90	0.83	694	957	589	19.17	0.81	638	63	649	20.27	-0.18	963	737	709	19.98	0.40	930	236
530	18.82	1.21	964	959	590	18.78	0.92	643	65	650	20.60	-0.06	969	735	710	19.10	0.83	924	249
531	19.37	0.31	955	971	591	19.94	0.60	653	90	651	20.85	-0.02	973	730	711	18.26	0.02	691	241
532	19.87	0.22	943	973	592	18.86	0.92	768	54	652	16.94	1.53	881	156	712	18.88	0.97	696	244
533	19.40	0.02	958	961	593	19.13	0.99	760	58	653	18.62	0.80	870	162	713	19.38	1.06	701	243
534	18.16	0.50	880	975	594	18.63	0.77	663	55	654	18.57	1.10	878	161	714	19.91	0.64	706	242
535	18.87	0.72	882	984	595	18.82	0.57	792	56	655	20.50	0.04	960	160	715	18.91	0.72	665	285
536	17.60	-0.10	853	977	596	19.05	0.72	802	55	656	19.95	0.37	910	165	716	19.64	0.64	668	281
537	18.98	0.91	839	986	597	19.06	0.83	811	55	657	18.85	0.83	902	170	717	17.75	1.09	664	265
538	19.88	1.45	846	993	598	19.15	0.27	784	54	658	19.17	0.88	920	169	718	19.24	0.18	659	273
539	20.13	0.74	856	995	599	19.87	0.45	794	49	659	19.39	0.10	914	172	719	18.85	0.84	661	260
540	19.65	0.16	857	982	600	19.02	0.93	936	63	660	19.87	1.28	954	173	720	19.13	0.88	666	253

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	19.79	0.81	661	250	781	19.60	0.68	810	290	841	18.95	0.99	645	367	901	18.59	0.58	961	433
722	19.76	0.44	670	246	782	18.84	0.91	970	284	842	17.74	0.87	636	383	902	18.92	1.03	945	442
723	19.00	0.23	678	256	783	18.77	0.04	964	286	843	18.78	0.69	693	351	903	19.33	0.18	959	449
724	19.51	1.04	673	260	784	18.89	0.90	980	306	844	19.27	-0.04	703	353	904	18.88	0.18	947	438
725	18.51	0.72	842	253	785	18.21	0.71	970	322	845	18.94	0.67	693	360	905	19.20	1.28	932	417
726	15.82	-0.03	837	282	786	18.71	1.07	965	325	846	19.98	0.92	700	368	906	19.83	0.41	929	417
727	18.94	0.34	853	286	787	18.78	0.17	964	308	847	17.62	0.99	777	351	907	19.31	0.62	951	420
728	19.23	-0.06	850	258	788	17.11	0.58	960	301	848	19.04	0.30	788	352	908	18.11	1.03	750	423
729	18.08	1.35	847	268	789	18.90	0.21	970	299	849	18.68	0.06	784	363	909	19.84	0.78	757	420
730	18.78	0.48	846	283	790	16.79	0.96	711	288	850	18.70	0.94	792	371	910	18.70	0.85	997	425
731	19.94	0.56	856	264	791	18.67	0.80	706	290	851	19.34	0.79	778	356	911	18.58	0.32	686	436
732	20.04	0.35	863	265	792	18.93	0.88	684	301	852	20.08	0.03	801	351	912	19.29	0.12	997	439
733	19.46	0.33	838	268	793	17.74	1.05	699	299	853	19.18	0.82	807	359	913	19.71	-0.06	985	445
734	17.98	1.03	908	251	794	17.80	1.00	694	300	854	19.38	0.81	812	368	914	17.34	1.42	1005	450
735	19.12	0.66	821	268	795	19.30	1.05	677	304	855	19.04	0.90	826	366	915	19.17	0.83	1006	466
736	18.71	0.22	811	268	796	19.24	0.97	675	311	856	19.42	0.15	823	355	916	19.12	0.69	1015	450
737	18.21	1.19	819	253	797	19.00	0.91	668	318	857	17.56	1.32	870	356	917	18.11	0.95	734	443
738	19.12	0.89	817	255	798	19.25	0.65	681	321	858	18.67	0.83	757	369	918	19.06	0.24	882	453
739	19.66	0.56	812	259	799	19.18	0.26	674	321	859	19.33	0.60	762	364	919	19.76	0.33	749	462
740	18.90	0.75	820	248	800	19.11	0.85	720	301	860	20.09	0.08	920	372	920	18.24	0.76	756	463
741	18.77	0.63	992	253	801	19.33	0.62	805	308	861	18.94	0.80	930	381	921	19.72	-0.01	743	467
742	18.33	0.73	978	262	802	19.19	0.08	797	327	862	18.12	1.42	921	384	922	19.63	0.62	764	470
743	18.31	0.63	758	257	803	18.18	0.81	809	327	863	18.94	0.90	921	393	923	19.25	0.64	731	461
744	19.24	0.90	754	254	804	19.12	0.13	807	338	864	18.44	0.02	913	396	924	19.42	0.18	725	467
745	17.93	1.13	773	256	805	19.93	0.97	798	339	865	19.21	0.91	831	643	925	19.96	0.01	746	454
746	19.24	0.94	783	263	806	18.54	-0.03	828	337	866	20.38	0.27	822	638	926	19.31	0.76	690	465
747	19.37	0.35	767	266	807	20.06	0.59	803	318	867	19.56	1.17	749	379	927	18.91	0.92	891	465
748	19.57	0.34	784	273	808	20.01	0.38	810	310	868	19.21	0.71	800	378	928	19.00	0.76	883	464
749	19.60	0.96	939	260	809	19.66	0.89	702	319	869	19.15	0.80	809	388	929	19.06	0.89	883	473
750	18.83	1.18	947	258	810	19.82	0.07	705	326	870	19.02	0.96	819	391	930	18.88	0.15	872	473
751	19.68	0.36	957	266	811	20.17	0.85	698	334	871	18.68	1.06	801	391	931	19.41	0.78	865	477
752	19.90	1.28	949	272	812	20.03	0.10	950	312	872	19.15	0.77	813	395	932	20.09	0.46	876	468
753	19.00	0.74	1002	257	813	19.06	1.21	855	325	875	18.91	1.16	827	397	933	18.87	0.84	643	472
754	18.66	1.29	1011	257	814	19.81	0.14	932	329	874	18.50	1.35	799	401	934	18.83	-0.11	754	479
755	19.47	-0.13	1020	258	815	19.33	0.33	686	331	875	19.60	0.63	834	402	935	19.50	0.89	747	484
756	19.37	1.02	1010	264	816	20.01	1.07	642	332	876	19.45	0.80	802	397	936	19.24	0.88	745	492
757	20.58	0.26	1023	266	817	19.60	0.23	891	334	877	19.47	1.22	811	399	937	19.17	0.79	749	499
758	19.51	0.52	726	265	818	19.32	0.96	884	338	878	19.08	0.92	879	380	938	19.15	0.75	756	499
759	19.71	0.65	722	271	819	19.54	0.22	878	344	879	17.71	0.97	965	396	939	19.32	0.93	997	480
760	19.91	0.33	727	281	820	20.05	0.51	895	347	880	19.39	0.51	971	398	940	17.54	1.31	992	488
761	19.71	0.39	991	264	821	19.27	0.83	889	355	881	19.91	0.42	970	405	941	19.51	0.26	981	499
762	19.34	1.02	987	270	822	18.51	0.89	909	334	882	18.80	0.96	764	391	942	19.41	0.66	991	496
763	19.57	0.66	991	281	823	18.02	0.14	918	336	883	19.49	0.55	651	395	943	17.97	1.10	791	483
764	17.60	1.11	699	271	824	19.42	0.28	917	343	884	16.58	0.77	709	395	944	19.69	1.03	788	498
765	18.71	0.62	697	281	825	19.25	0.85	905	337	885	18.90	0.81	889	400	945	17.58	1.19	780	507
766	19.25	0.81	754	271	826	19.98	1.10	912	327	886	19.21	0.72	894	413	946	19.20	0.77	770	495
767	19.25	0.89	768	277	827	19.11	0.90	715	348	887	20.17	0.39	943	400	947	18.90	0.88	762	504
768	17.85	1.09	760	282	828	19.56	0.71	712	342	888	18.69	1.08	679	404	948	18.98	0.96	794	486
769	19.17	0.59	771	290	829	19.76	0.33	719	343	889	20.21	0.69	680	411	949	19.70	0.23	785	482
770	19.69	0.97	766	297	830	19.34	0.82	779	337	890	18.97	0.14	982	407	950	18.18	0.68	642	484
771	19.94	0.65	776	289	831	19.14	1.07	859	338	891	18.75	0.45	986	415	951	15.36	-0.11	945	496
772	19.22	1.05	740	279	832	19.83	0.27	840	340	892	18.96	0.90	664	409	952	18.23	-0.11	966	499
773	19.02	0.16	744	291	833	19.97	0.16	636	342	893	19.57	0.51	661	403	953	18.35	0.41	958	512
774	19.38	0.84	652	285	834	18.99	0.73	683	343	894	18.38	0.92	1001	408	954	18.70	0.76	922	503
775	19.58	0.02	678	284	835	18.22	0.81	677	357	895	18.74	0.66	999	414	955	18.69	0.84	928	508
776	18.31	0.05	808	284	836	18.24	0.91	676	353	896	19.06	0.73	697	417	956	17.51	1.46	924	524
777	18.21	0.80	799	286	837	17.45	1.14	936	344	897	19.45	1.16	703	422	957	18.77	0.84	929	522
778	19.20	0.93	818	296	838	18.84	0.44	655	354	898	19.60	0.78	701	432	958	19.23	1.23	921	532
779	18.79	0.86	801	280	839	19.23	0.84	663	362	899	20.00	0.81	937	427	959	18.13	1.27	1005	545
780	19.45	1.25	815	281	840	19.80	0.09	654	364	900	18.51	0.85	951	428	960	16.72	1.81	1001	557

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	17.89	0.93	984	557	1021	19.99	0.08	853	654	1081	16.80	1.63	858	695	1141	17.17	1.43	894	753
962	19.21	0.54	983	550	1022	17.87	1.28	677	639	1082	19.48	0.73	849	699	1142	19.16	0.07	748	744
963	18.84	0.99	1004	565	1023	17.84	1.15	670	650	1083	18.66	0.85	883	698	1143	18.33	1.27	735	748
964	19.82	1.21	811	552	1024	18.85	0.74	683	634	1084	19.42	0.73	1016	698	1144	16.60	1.60	728	767
965	19.56	0.86	815	560	1025	19.14	0.90	805	640	1085	19.56	0.38	1010	703	1145	18.37	1.02	715	771
966	19.50	0.70	816	570	1026	17.93	1.16	810	652	1086	19.23	0.91	1016	709	1146	18.54	0.87	740	780
967	19.29	0.80	824	569	1027	17.33	0.71	796	653	1087	19.10	0.98	1000	705	1147	18.23	0.93	715	757
968	18.88	0.75	825	579	1028	19.28	0.30	823	660	1088	19.54	0.00	1022	720	1148	18.88	0.74	722	778
969	16.92	-0.04	836	596	1029	19.24	1.18	794	657	1089	19.14	0.78	980	702	1149	18.98	1.07	728	773
970	19.40	0.79	908	574	1030	19.64	-0.14	804	651	1090	18.70	0.07	796	724	1150	19.42	0.51	739	742
971	18.59	0.97	916	573	1031	19.61	0.94	814	664	1091	18.94	0.71	791	729	1151	18.91	0.74	646	751
972	19.15	0.88	908	582	1032	18.46	0.89	879	644	1092	18.92	0.81	810	715	1152	17.81	-0.11	917	751
973	19.26	0.74	906	569	1033	19.78	0.41	639	646	1093	19.21	0.78	812	708	1153	19.59	0.05	987	753
974	18.71	0.79	933	573	1034	19.50	0.26	1028	659	1094	19.24	0.22	823	707	1154	20.18	0.12	985	748
975	19.02	0.79	932	581	1035	19.51	0.23	1032	648	1095	19.34	0.83	827	712	1155	18.09	0.89	634	754
976	18.88	0.79	866	575	1036	19.90	0.55	1026	647	1096	19.21	0.45	915	708	1156	18.71	0.94	781	759
977	20.09	0.31	876	580	1037	19.96	0.51	1016	647	1097	19.04	0.82	904	712	1157	19.14	0.91	778	766
978	18.31	1.29	897	590	1038	19.04	0.87	637	658	1098	18.92	0.91	897	727	1158	18.46	0.85	788	770
979	18.96	0.33	885	599	1039	18.14	1.02	626	665	1099	18.95	0.92	904	721	1159	19.36	0.70	797	775
980	19.16	0.63	889	584	1040	19.36	0.87	636	666	1100	19.08	0.68	910	727	1160	18.86	0.63	785	780
981	19.75	0.79	885	579	1041	19.55	0.07	645	674	1101	18.26	1.17	752	710	1161	18.50	1.14	818	759
982	19.74	0.67	865	570	1042	19.97	-0.14	636	678	1102	18.85	0.68	988	711	1162	18.90	0.45	821	763
983	18.88	0.68	779	582	1043	19.69	0.89	655	681	1103	18.34	0.66	994	717	1163	15.54	0.43	843	765
984	18.28	0.64	786	585	1044	18.19	1.42	652	691	1104	19.19	1.13	1002	727	1164	17.92	0.02	843	783
985	18.90	0.90	779	591	1045	19.68	0.67	653	665	1105	18.71	1.03	1022	739	1165	19.06	0.80	849	779
986	19.51	0.38	929	586	1046	19.46	0.26	663	669	1106	19.45	0.73	1005	744	1166	18.10	1.16	858	768
987	19.21	0.73	921	590	1047	18.80	0.73	998	680	1107	18.76	-0.04	1022	750	1167	19.15	0.52	843	773
988	17.97	0.87	998	588	1048	18.84	0.59	1005	680	1108	18.54	0.79	1026	732	1168	18.58	1.29	832	754
989	18.54	1.09	763	590	1049	18.25	0.79	1008	688	1109	19.12	0.65	1011	737	1169	18.45	1.08	829	755
990	16.56	1.73	771	607	1050	19.53	0.56	990	677	1110	19.02	0.51	1009	732	1170	19.03	1.29	882	760
991	18.27	0.09	780	625	1051	19.36	0.02	998	658	1111	17.93	1.10	871	714	1171	19.22	0.09	1005	766
992	18.66	0.90	773	628	1052	16.72	2.54	1006	665	1112	16.77	1.66	880	725	1172	18.74	0.84	991	766
993	19.38	1.06	753	594	1053	19.03	0.63	1013	661	1113	17.98	0.98	880	736	1173	17.79	0.90	1005	780
994	18.18	0.93	758	599	1054	18.46	0.82	1010	669	1114	19.17	0.70	875	722	1174	19.30	0.89	993	786
995	19.19	0.02	763	600	1055	19.35	0.63	1001	670	1115	19.21	-0.03	740	718	1175	16.89	1.48	1010	792
996	19.95	0.30	768	616	1056	18.96	0.07	899	666	1116	18.60	0.88	722	727	1176	18.55	0.26	1019	798
997	19.05	0.73	859	589	1057	19.23	0.11	856	667	1117	19.10	0.72	730	730	1177	17.40	0.77	1012	803
998	18.53	0.87	1014	593	1058	18.05	1.04	802	671	1118	19.07	0.80	734	725	1178	18.26	1.07	1023	768
999	15.16	0.70	1018	609	1059	17.00	0.00	784	675	1119	19.50	0.23	724	720	1179	18.78	0.95	767	766
1000	19.47	0.33	871	599	1060	18.49	0.48	849	678	1120	19.28	0.74	773	722	1180	19.22	0.70	911	765
1001	19.64	0.68	876	601	1061	19.18	0.79	881	678	1121	19.35	0.61	777	737	1181	19.61	0.13	908	773
1002	19.67	0.54	868	595	1062	20.14	0.33	887	676	1122	19.63	0.87	781	747	1182	18.80	0.82	677	767
1003	19.00	0.83	910	599	1063	19.73	0.20	874	686	1123	19.40	0.05	829	724	1183	18.48	0.96	671	759
1004	18.81	0.83	914	602	1064	19.51	0.11	896	681	1124	19.51	1.16	822	729	1184	19.42	0.80	661	757
1005	18.94	0.85	650	607	1065	17.47	1.41	899	694	1125	18.46	0.76	633	726	1185	18.62	0.47	940	771
1006	17.95	1.33	658	618	1066	17.80	0.94	900	701	1126	19.08	0.84	624	732	1186	18.96	1.02	951	775
1007	16.65	1.78	652	626	1067	19.09	0.82	811	686	1127	19.29	0.60	761	728	1187	18.19	0.95	935	778
1008	19.13	0.85	670	614	1068	19.62	1.22	821	690	1128	19.40	0.33	740	739	1188	19.17	1.04	945	788
1009	18.73	0.99	641	629	1069	19.99	0.33	803	691	1129	20.35	-0.23	715	739	1189	19.65	0.14	952	789
1010	19.74	0.98	996	623	1070	18.05	0.86	839	689	1130	19.44	0.95	724	741	1190	18.12	1.12	923	774
1011	19.37	0.97	1001	636	1071	18.97	0.75	815	685	1131	18.81	0.41	762	739	1191	18.90	0.96	949	800
1012	19.08	0.55	1002	611	1072	19.21	1.06	835	697	1132	18.63	-0.02	769	749	1192	19.10	0.87	961	795
1013	18.88	0.43	995	610	1073	19.20	0.98	828	694	1133	18.05	-0.10	811	746	1193	19.74	0.08	956	810
1014	17.85	0.96	840	615	1074	19.52	0.66	827	686	1134	18.31	0.67	809	739	1194	19.74	1.08	952	770
1015	18.55	0.62	837	623	1075	19.48	0.58	779	690	1135	18.74	0.31	805	748	1195	19.21	0.36	691	784
1016	18.92	0.84	853	623	1076	18.65	0.77	633	691	1136	18.21	0.83	801	738	1196	19.05	0.10	699	797
1017	19.16	0.94	1018	629	1077	18.50	1.06	624	696	1137	19.30	0.79	793	738	1197	18.53	0.36	714	799
1018	17.39	1.29	863	652	1078	18.60	0.81	638	702	1138	18.53	1.13	874	741	1198	19.51	-0.06	710	793
1019	19.89	0.24	844	644	1079	18.91	0.89	630	699	1139	18.63	0.23	876	751	1199	17.95	1.09	801	788
1020	19.85	0.38	855	638	1080	19.16	0.93	637	709	1140	18.83	1.04	888	744	1200	18.62	-0.06	803	801

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	18.14	1.15	774	789	1261	17.65	0.93	726	862	1321	18.24	1.00	674	886	1381	18.09	0.94	986	931
1202	17.70	1.81	763	800	1262	20.48	0.29	717	873	1322	19.23	0.46	673	899	1382	18.90	1.07	963	943
1203	19.85	0.24	772	817	1263	17.93	0.63	714	862	1323	16.10	1.46	910	907	1383	15.47	0.84	849	931
1204	19.00	1.02	745	796	1264	18.99	0.29	729	842	1324	17.93	-0.07	921	909	1384	19.65	0.21	988	952
1205	19.11	0.13	773	807	1265	19.63	0.60	703	862	1325	19.17	0.80	907	895	1385	17.96	0.91	982	963
1206	19.09	0.21	757	807	1266	19.58	0.94	731	865	1326	18.93	0.73	894	899	1386	17.27	1.30	988	973
1207	17.96	0.66	765	804	1267	18.55	0.97	806	849	1327	19.44	-0.09	891	893	1387	19.39	1.18	998	968
1208	19.50	0.58	773	781	1268	17.51	1.16	797	855	1328	19.36	0.16	899	889	1388	18.86	0.82	980	947
1209	19.33	0.03	781	787	1269	19.35	0.87	807	863	1329	17.08	1.42	839	907	1389	18.82	0.96	973	946
1210	19.05	0.80	627	796	1270	18.88	0.22	795	865	1330	17.81	1.25	836	916	1390	19.09	0.55	977	957
1211	19.14	0.92	625	802	1271	19.08	0.75	853	859	1331	18.25	0.81	828	920	1391	18.78	0.92	985	976
1212	20.50	-0.28	831	803	1272	17.60	-0.13	869	869	1332	17.12	1.28	832	890	1392	19.39	0.19	979	971
1213	19.91	0.07	828	813	1273	19.32	1.26	784	862	1333	16.81	1.44	837	893	1393	18.97	1.00	748	954
1214	18.22	1.13	840	813	1274	19.06	0.77	779	869	1334	18.14	0.70	842	898	1394	18.60	0.98	755	950
1215	18.44	0.35	911	804	1275	19.23	1.02	959	862	1335	19.55	-0.09	821	923	1395	18.83	0.86	744	949
1216	19.12	0.90	920	804	1276	19.73	1.18	941	868	1336	19.00	0.52	816	922	1396	19.29	0.73	740	944
1217	19.34	0.96	923	816	1277	18.32	-0.01	952	872	1337	19.52	0.80	823	928	1397	16.47	0.86	675	958
1218	19.08	0.81	917	811	1278	18.87	1.17	958	870	1338	18.52	0.58	703	918	1398	17.91	0.83	671	960
1219	19.21	0.95	692	810	1279	19.38	0.65	948	874	1339	18.26	0.37	711	917	1399	18.53	0.93	758	963
1220	16.13	1.70	686	824	1280	20.25	0.08	959	879	1340	19.19	0.28	709	912	1400	18.44	0.95	646	964
1221	17.59	1.03	697	837	1281	16.93	-0.06	687	865	1341	18.70	0.86	699	907	1401	19.54	-0.03	638	963
1222	18.31	0.00	673	814	1282	18.28	1.04	699	880	1342	19.46	1.34	686	911	1402	18.71	0.04	639	977
1223	19.20	0.02	705	826	1283	18.32	0.91	681	869	1343	19.64	0.34	681	915	1403	18.91	0.01	794	969
1224	17.51	0.91	691	830	1284	18.76	0.85	680	877	1344	19.77	0.61	702	895	1404	19.35	0.96	1009	970
1225	18.92	0.32	685	837	1285	17.68	1.43	921	867	1345	19.56	0.57	696	896	1405	19.20	0.66	1020	971
1226	18.67	0.97	704	836	1286	19.60	0.01	926	869	1346	19.35	-0.12	934	897	1406	17.53	1.34	1019	983
1227	19.15	1.28	699	844	1287	18.67	0.73	885	867	1347	18.62	1.07	937	910	1407	18.34	0.80	703	970
1228	18.57	0.53	814	814	1288	17.70	-0.17	869	869	1348	18.92	0.47	939	922	1408	19.03	0.22	700	980
1229	19.02	0.80	909	818	1289	18.60	1.13	970	868	1349	16.57	1.55	953	907	1409	18.96	0.82	713	980
1230	18.15	0.87	798	823	1290	18.04	0.95	981	875	1350	17.19	1.61	954	921	1410	19.10	0.41	759	973
1231	19.57	1.13	791	818	1291	19.07	0.79	990	879	1351	16.92	1.54	947	903	1411	19.02	0.95	758	982
1232	19.09	0.71	646	824	1292	17.96	1.10	983	895	1352	19.17	0.86	932	915	1412	18.84	0.28	751	987
1233	18.56	1.05	783	826	1293	18.65	0.47	993	895	1353	19.38	-0.05	944	928	1413	19.76	0.53	747	993
1234	19.40	0.04	811	828	1294	19.40	0.66	1001	890	1354	19.64	0.64	962	920	1414	18.36	0.88	738	995
1235	19.10	1.12	817	838	1295	19.23	0.80	978	884	1355	17.86	1.09	949	909	1415	19.01	0.27	747	983
1236	18.87	0.75	823	850	1296	19.16	0.86	974	887	1356	20.01	0.09	963	898	1416	18.49	1.01	682	975
1237	19.77	0.32	912	828	1297	19.36	0.38	975	899	1357	17.54	0.06	851	900	1417	18.13	0.97	672	975
1238	18.46	0.86	654	832	1298	18.69	0.05	799	875	1358	18.32	1.06	858	898	1418	18.78	0.79	681	986
1239	19.45	0.50	660	830	1299	17.96	0.14	796	886	1359	20.09	0.90	631	901	1419	18.84	0.67	679	993
1240	18.97	0.03	643	849	1300	18.21	1.05	795	897	1360	19.79	0.93	630	910	1420	18.55	0.93	673	979
1241	18.98	0.97	645	843	1301	18.89	0.74	787	908	1361	19.45	0.33	643	904	1421	19.08	0.69	743	975
1242	19.25	0.23	650	839	1302	18.71	0.30	786	899	1362	17.62	0.90	771	906	1422	18.13	0.77	795	981
1243	16.54	1.78	657	870	1303	19.00	0.87	780	897	1363	17.99	0.98	997	910	1423	18.00	1.04	773	981
1244	18.80	1.26	651	867	1304	18.38	0.93	797	902	1364	18.71	0.56	1001	917	1424	18.48	1.11	768	983
1245	18.25	1.40	652	854	1305	19.33	0.54	889	879	1365	18.86	1.09	1000	923	1425	19.22	1.15	999	984
1246	18.66	0.41	649	859	1306	18.52	0.90	879	886	1366	17.51	1.50	1009	924	1426	18.31	0.71	788	995
1247	18.68	0.75	671	855	1307	18.47	0.88	878	900	1367	19.07	0.74	1021	935	1427	17.38	1.42	774	997
1248	19.09	0.64	665	858	1308	19.38	0.93	870	906	1368	19.33	0.12	1011	942	1428	18.78	0.69	794	1006
1249	18.38	0.59	746	844	1309	19.79	0.72	873	893	1369	19.37	0.34	788	918	1429	19.89	0.46	786	1011
1250	17.82	0.81	746	836	1310	19.69	0.54	871	889	1370	20.09	0.26	796	925	1430	19.10	0.00	766	1000
1251	17.86	0.83	982	836	1311	19.17	0.65	923	882	1371	18.02	-0.02	806	929	1431	19.39	0.86	794	993
1252	18.48	1.21	990	846	1312	19.42	0.04	934	882	1372	19.05	0.24	790	932	1432	18.17	1.17	710	997
1253	18.94	0.83	982	853	1313	17.95	-0.02	854	882	1373	18.84	0.98	798	940	1433	19.59	0.48	696	997
1254	18.82	0.88	974	857	1314	18.59	0.72	807	884	1374	18.74	0.09	777	933	1434	17.85	1.07	700	1015
1255	18.99	0.40	981	840	1315	18.50	1.03	813	889	1375	20.18	0.07	790	946	1435	19.74	0.39	715	1006
1256	19.03	0.87	998	837	1316	19.01	0.37	812	900	1376	18.82	0.83	773	946	1436	18.56	0.89	728	998
1257	19.93	0.79	788	844	1317	18.96	1.03	821	903	1377	19.18	0.97	782	927	1437	19.33	0.97	725	991
1258	19.70	0.25	791	839	1318	18.83	0.56	685	894	1378	19.04	0.51	782	937	1438	19.51	0.42	720	986
1259	18.80	0.12	756	847	1319	17.48	1.09	671	896	1379	19.27	0.74	767	945	1439	19.64	0.19	1000	375
1260	17.40	1.24	734	848	1320	19.09	0.77	659	899	1380	17.39	1.17	976	930	1440	20.08	0.31	671	379

Table 9b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1441	18.41	0.66	661	382	1494	17.80	1.25	698	452	1547	18.65	0.51	963	103	1600	17.48	1.51	957	565
1442	18.86	0.81	663	392	1495	18.80	0.68	709	455	1548	18.59	0.93	958	133	1601	16.21	1.45	952	577
1443	19.74	0.46	672	397	1496	17.76	0.89	1023	491	1549	18.99	0.90	977	140	1602	18.71	1.01	940	585
1444	19.10	0.71	859	384	1497	19.20	0.58	1018	495	1550	19.03	0.03	954	139	1603	19.34	0.87	938	573
1445	19.11	0.74	855	390	1498	17.31	1.31	866	611	1551	18.91	0.85	992	119	1604	18.89	0.91	976	575
1446	18.99	0.01	868	389	1499	19.24	1.11	860	614	1552	19.28	0.87	993	110	1605	18.85	1.01	980	584
1447	18.16	0.91	846	390	1500	13.10	0.67	861	830	1553	19.52	0.47	961	139	1606	20.11	0.81	972	586
1448	18.57	1.08	878	393	1501	17.62	0.88	852	822	1554	19.83	0.16	967	144	1607	18.68	0.51	654	644
1449	19.04	0.88	879	406	1502	17.99	1.08	868	841	1555	19.57	0.42	994	140	1608	18.99	0.99	665	643
1450	16.48	1.79	849	374	1503	18.59	0.59	863	812	1556	19.59	1.01	764	102	1609	18.32	0.94	729	650
1451	20.26	-0.27	847	399	1504	18.70	0.45	848	840	1557	19.34	0.82	758	110	1610	18.59	1.22	721	652
1452	18.81	0.74	862	370	1505	19.35	0.49	876	828	1558	19.33	0.80	753	119	1611	19.17	0.81	720	656
1453	18.95	0.31	867	376	1506	14.98	-0.21	901	856	1559	16.72	1.88	767	123	1612	19.29	0.83	685	660
1454	19.00	1.08	965	534	1507	18.76	0.41	913	853	1560	19.80	0.26	767	133	1613	19.30	0.88	690	665
1455	18.24	1.02	972	539	1508	18.80	0.93	909	863	1561	18.55	0.68	909	139	1614	20.16	0.56	696	659
1456	19.48	0.27	984	538	1509	19.86	0.24	912	874	1562	16.35	1.46	903	136	1615	19.52	0.57	662	691
1457	19.36	0.94	912	636	1510	20.10	0.66	909	840	1563	19.04	0.55	896	125	1616	19.37	1.08	669	689
1458	19.42	0.02	921	638	1511	18.37	0.50	1025	947	1564	19.55	0.77	893	133	1617	18.36	1.09	674	684
1459	18.66	1.07	905	649	1512	19.36	0.77	977	176	1565	19.79	0.31	900	151	1618	18.60	0.64	674	677
1460	18.99	0.99	896	652	1513	19.92	0.87	649	400	1566	19.52	0.09	909	145	1619	19.38	0.82	670	672
1461	18.73	1.11	916	651	1514	17.67	1.06	645	459	1567	18.33	-0.05	984	159	1620	18.78	0.92	676	667
1462	18.80	0.05	912	656	1515	18.52	0.72	651	463	1568	18.40	1.00	662	303	1621	18.99	0.90	753	680
1463	19.87	0.73	923	648	1516	17.35	0.37	648	445	1569	18.53	-0.10	641	314	1622	19.34	0.73	847	742
1464	19.68	0.69	892	637	1517	18.63	0.60	751	654	1570	18.73	1.09	634	321	1623	19.18	0.90	649	764
1465	20.26	0.01	894	632	1518	18.28	0.94	758	659	1571	13.34	0.81	997	331	1624	19.64	0.43	653	772
1466	19.17	0.73	890	647	1519	17.14	1.36	769	665	1572	18.13	1.00	1018	333	1625	18.96	0.77	642	773
1467	18.99	1.04	891	643	1520	18.48	0.83	749	667	1573	17.96	0.78	1003	340	1626	18.88	0.88	634	777
1468	20.11	0.11	905	641	1521	18.23	0.76	739	667	1574	18.80	0.92	970	343	1627	19.58	0.91	630	773
1469	19.98	1.00	773	960	1522	19.17	0.21	736	675	1575	18.36	0.69	977	354	1628	19.44	0.21	646	782
1470	18.79	0.71	769	970	1523	19.16	0.87	746	676	1576	15.75	-0.11	965	359	1629	19.26	1.09	866	764
1471	18.72	0.76	646	20	1524	20.08	0.21	973	28	1577	17.86	1.18	953	356	1630	19.87	0.65	867	772
1472	18.27	0.97	654	27	1525	18.69	0.77	977	68	1578	19.80	1.39	946	362	1631	19.26	0.53	881	771
1473	18.98	0.81	656	34	1526	19.63	0.01	974	59	1579	19.05	0.06	988	358	1632	18.35	0.18	879	793
1474	18.76	0.86	768	21	1527	19.42	1.19	968	60	1580	19.33	0.92	995	365	1633	17.78	1.28	878	788
1475	19.25	0.85	778	30	1528	19.42	0.26	972	45	1581	19.72	1.05	737	371	1634	18.36	0.80	871	797
1476	19.08	0.79	760	18	1529	19.57	0.49	978	36	1582	17.99	0.89	739	382	1635	19.05	0.67	868	784
1477	18.78	0.88	1017	22	1530	18.11	0.80	755	72	1583	19.59	1.02	735	391	1636	19.44	0.94	867	778
1478	20.29	0.81	1027	240	1531	19.39	0.91	763	70	1584	18.33	0.56	748	404	1637	19.64	0.68	864	789
1479	19.56	0.28	1029	246	1532	16.35	1.28	778	77	1585	17.57	1.34	737	421	1638	18.94	0.73	644	788
1480	19.15	0.92	1026	307	1533	16.34	1.70	777	88	1586	16.67	1.70	729	410	1639	16.43	-0.02	649	803
1481	17.55	1.17	1020	345	1534	17.29	1.20	775	100	1587	16.87	1.17	724	400	1640	19.11	0.53	655	814
1482	18.98	0.91	854	353	1535	19.42	1.05	778	110	1588	18.30	0.79	638	398	1641	19.21	1.13	663	806
1483	17.52	1.07	842	356	1536	17.47	1.12	915	119	1589	18.58	0.78	629	399	1642	20.02	-0.02	665	798
1484	18.38	0.95	856	364	1537	19.76	1.10	926	113	1590	19.99	0.86	760	409	1643	19.36	0.69	641	796
1485	16.50	1.80	849	375	1538	18.48	0.90	901	111	1591	14.64	0.61	648	426	1644	17.39	1.14	848	795
1486	20.36	0.74	827	384	1539	17.92	1.17	907	104	1592	18.78	0.76	635	420	1645	19.52	1.30	849	808
1487	19.37	0.59	854	348	1540	19.41	0.76	912	103	1593	18.94	0.64	661	435	1646	18.78	0.27	768	869
1488	18.96	1.11	1027	381	1541	16.80	0.39	982	136	1594	17.50	1.13	672	435	1647	19.02	0.76	758	869
1489	19.23	0.88	1035	381	1542	18.59	1.64	977	125	1595	19.53	0.83	678	430	1648	18.98	0.16	751	874
1490	19.42	0.25	1020	380	1543	17.40	1.50	977	109	1596	19.10	0.41	850	447	1649	18.52	1.13	756	883
1491	17.99	0.88	1027	438	1544	16.31	1.66	961	117	1597	19.05	1.01	845	455	1650	17.35	1.53	765	884
1492	19.36	1.07	1027	451	1545	18.03	1.32	959	124	1598	19.13	0.93	852	459	1651	19.63	0.15	752	891
1493	16.99	1.47	718	439	1546	17.80	1.59	950	125	1599	18.21	1.28	862	461	1652	20.45	-0.48	751	863

Table 10 : Magnitudes, Colors and Positions of Stars in NGC 2107.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	18.83	0.24	74.	7.	61	20.39	0.93	201.	35.	121	20.30	0.23	239.	61.	181	18.22	0.11	294.	88.
2	20.23	0.49	241.	7.	62	20.94	0.50	247.	36.	122	19.53	0.94	302.	61.	182	20.48	0.19	38.	88.
3	18.00	1.29	215.	9.	63	20.15	0.77	21.	36.	123	20.50	0.36	83.	63.	183	21.13	0.37	210.	88.
4	20.24	0.38	171.	10.	64	19.67	0.25	62.	37.	124	17.50	0.95	218.	63.	184	19.75	0.25	88.	89.
5	18.97	0.24	297.	10.	65	15.94	0.69	155.	37.	125	20.49	0.60	233.	63.	185	18.40	1.09	196.	90.
6	19.27	0.20	235.	10.	66	19.33	0.28	72.	37.	126	19.84	0.99	117.	63.	186	18.17	1.25	36.	91.
7	21.24	0.45	204.	11.	67	20.69	-0.31	22.	38.	127	19.71	0.18	310.	63.	187	20.38	0.25	94.	91.
8	19.96	0.21	139.	12.	68	18.68	1.17	191.	38.	128	21.12	0.35	174.	64.	188	19.00	0.88	305.	91.
9	20.94	0.51	41.	12.	69	20.93	0.40	197.	38.	129	20.16	0.17	161.	64.	189	20.76	0.26	42.	91.
10	19.86	-0.07	28.	13.	70	19.83	0.41	219.	38.	130	20.88	0.24	242.	64.	190	19.83	0.31	162.	92.
11	19.99	0.10	91.	13.	71	19.08	0.88	252.	39.	131	19.25	0.22	274.	64.	191	20.21	1.23	79.	92.
12	19.92	0.25	277.	13.	72	20.67	0.05	79.	39.	132	18.91	1.16	15.	64.	192	17.81	1.29	277.	93.
13	20.93	0.97	215.	14.	73	20.47	0.46	202.	39.	133	20.29	0.96	135.	65.	193	20.88	0.26	46.	94.
14	21.13	0.49	235.	14.	74	19.72	1.03	118.	40.	134	21.58	0.44	259.	65.	194	20.99	0.90	36.	95.
15	18.80	1.13	30.	14.	75	18.99	0.10	186.	40.	135	21.25	-0.09	231.	65.	195	19.44	1.07	132.	96.
16	19.21	0.25	206.	15.	76	20.19	0.27	25.	40.	136	18.28	0.16	157.	65.	196	17.86	1.38	70.	96.
17	18.97	1.14	42.	15.	77	20.60	0.04	98.	41.	137	20.58	0.40	21.	66.	197	20.78	0.53	305.	97.
18	21.53	1.05	35.	17.	78	19.70	1.04	115.	42.	138	20.94	0.38	181.	67.	198	19.92	0.55	213.	97.
19	19.74	0.36	225.	18.	79	20.03	0.38	153.	43.	139	19.49	0.96	113.	67.	199	19.70	1.02	290.	98.
20	21.13	0.87	254.	18.	80	20.65	0.88	275.	44.	140	20.63	0.41	279.	67.	200	20.11	0.21	154.	99.
21	20.26	0.26	130.	18.	81	19.26	0.84	75.	44.	141	20.41	0.43	93.	67.	201	20.05	0.33	83.	100.
22	18.72	1.08	92.	18.	82	20.28	0.92	14.	44.	142	20.29	0.45	158.	67.	202	21.26	0.28	302.	100.
23	18.51	0.10	163.	19.	83	20.29	0.19	81.	45.	143	21.05	0.58	173.	68.	203	20.41	0.62	297.	101.
24	18.96	0.15	16.	19.	84	19.94	0.27	99.	45.	144	20.61	0.31	260.	69.	204	20.38	0.27	162.	101.
25	20.78	0.43	229.	19.	85	19.88	0.95	135.	45.	145	18.66	1.18	294.	69.	205	18.61	1.36	223.	101.
26	19.74	0.40	224.	21.	86	18.76	1.21	28.	45.	146	20.72	0.56	147.	69.	206	20.78	0.22	229.	102.
27	19.10	0.91	139.	21.	87	20.81	0.35	71.	45.	147	20.04	0.28	46.	70.	207	21.39	0.41	286.	102.
28	21.16	0.20	18.	22.	88	19.18	0.85	22.	46.	148	20.73	0.50	173.	71.	208	21.51	0.67	206.	103.
29	19.47	0.98	252.	22.	89	20.09	0.24	265.	47.	149	20.13	0.31	282.	71.	209	19.90	0.29	211.	103.
30	20.91	0.52	247.	23.	90	19.84	0.31	186.	47.	150	18.60	0.24	304.	72.	210	19.43	0.86	233.	103.
31	20.17	0.60	190.	24.	91	20.79	0.38	84.	47.	151	20.19	0.39	74.	72.	211	19.49	0.63	313.	104.
32	17.38	1.57	163.	24.	92	21.35	0.47	278.	47.	152	21.16	0.55	169.	72.	212	20.49	0.12	168.	104.
33	20.64	0.44	101.	24.	93	21.11	0.42	139.	47.	153	21.31	0.75	278.	72.	213	20.83	0.48	85.	104.
34	19.24	1.01	195.	25.	94	17.77	1.32	18.	48.	154	19.53	0.83	151.	72.	214	19.49	1.01	245.	104.
35	21.06	0.25	17.	26.	95	20.13	0.46	49.	49.	155	21.42	0.71	176.	73.	215	20.90	0.45	81.	105.
36	19.69	0.94	198.	26.	96	20.88	0.41	54.	49.	156	18.39	1.35	261.	74.	216	16.84	1.63	265.	105.
37	18.82	0.89	108.	27.	97	20.22	0.35	204.	49.	157	19.67	0.37	182.	75.	217	20.23	0.45	74.	106.
38	20.92	0.14	58.	28.	98	20.29	0.20	179.	49.	158	19.38	0.91	173.	76.	218	20.59	0.33	190.	106.
39	18.25	1.12	73.	28.	99	18.95	0.84	19.	50.	159	19.75	0.97	247.	76.	219	18.91	1.05	156.	106.
40	21.00	0.31	79.	28.	100	20.07	0.18	239.	50.	160	20.69	0.44	126.	77.	220	21.36	0.40	220.	107.
41	19.34	0.98	101.	28.	101	19.99	0.95	35.	50.	161	20.06	0.20	44.	78.	221	18.32	0.12	261.	108.
42	18.70	0.14	190.	28.	102	20.10	1.04	220.	51.	162	21.66	0.40	251.	78.	222	21.12	0.27	242.	109.
43	20.50	0.56	54.	28.	103	17.05	1.43	103.	51.	163	18.63	0.19	118.	80.	223	21.35	0.94	32.	109.
44	19.55	0.15	134.	29.	104	20.26	0.76	293.	51.	164	19.77	0.97	186.	80.	224	18.12	0.12	17.	109.
45	19.34	0.10	13.	29.	105	19.37	1.08	115.	52.	165	21.87	0.54	47.	80.	225	21.67	0.64	193.	110.
46	21.11	0.61	167.	29.	106	18.90	1.17	186.	53.	166	20.04	0.44	136.	80.	226	19.49	0.18	299.	111.
47	19.39	0.13	296.	30.	107	19.67	0.72	309.	53.	167	21.94	0.57	220.	81.	227	19.90	0.78	303.	111.
48	19.71	0.49	16.	30.	108	19.88	0.30	140.	53.	168	21.82	0.13	58.	81.	228	19.42	0.22	68.	111.
49	20.27	0.25	280.	30.	109	18.93	0.12	272.	54.	169	20.01	0.25	74.	81.	229	19.50	0.19	10.	112.
50	21.25	0.78	171.	31.	110	19.78	0.24	212.	54.	170	19.51	0.94	185.	82.	230	20.51	0.53	34.	112.
51	19.12	0.18	187.	31.	111	19.07	0.83	271.	57.	171	20.39	1.00	218.	85.	231	20.11	0.94	206.	112.
52	20.68	0.41	302.	31.	112	19.51	0.99	291.	58.	172	18.47	0.23	54.	85.	232	20.69	0.44	155.	112.
53	18.73	0.92	244.	31.	113	20.19	0.38	34.	58.	173	20.28	0.31	72.	85.	233	20.17	0.49	176.	113.
54	20.55	0.23	41.	32.	114	19.45	1.05	81.	58.	174	21.78	0.20	222.	85.	234	19.30	1.05	28.	113.
55	20.14	0.26	49.	33.	115	19.54	0.07	306.	58.	175	21.19	0.43	303.	86.	235	20.82	0.01	35.	114.
56	19.52	0.11	62.	33.	116	19.85	0.90	150.	58.	176	19.33	0.79	217.	86.	236	19.96	0.19	266.	114.
57	20.00	0.30	57.	34.	117	18.51	1.19	284.	59.	177	20.58	0.18	174.	87.	237	20.67	0.99	257.	114.
58	19.49	0.20	68.	34.	118	20.53	0.38	138.	59.	178	20.30	0.38	25.	87.	238	20.85	0.33	289.	114.
59	20.50	0.18	118.	34.	119	19.47	1.00	60.	59.	179	19.60	0.19	137.	87.	239	21.26	0.33	261.	115.
60	19.97	0.22	39.	35.	120	19.73	1.05	31.	60.	180	20.30	0.23	271.	87.	240	20.99	0.81	284.	115.

Table 10 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.59	0.98	84.	115.	301	20.81	0.31	243.	145.	361	20.81	1.07	14.	173.	421	21.30	0.58	63.	198.
242	20.24	0.18	249.	115.	302	19.56	1.02	271.	145.	362	19.51	1.02	250.	173.	422	19.22	0.24	188.	198.
243	18.88	1.45	77.	115.	303	19.29	0.14	246.	145.	363	19.14	0.14	126.	173.	423	18.12	1.31	243.	198.
244	19.54	0.92	20.	116.	304	19.55	1.09	61.	145.	364	20.49	0.59	314.	174.	424	20.18	0.30	184.	199.
245	19.91	0.27	136.	116.	305	19.63	0.03	320.	146.	365	20.39	0.31	201.	175.	425	20.80	0.34	199.	199.
246	19.04	0.84	252.	117.	306	19.89	0.18	241.	146.	366	21.75	0.15	120.	175.	426	20.99	0.60	76.	199.
247	20.21	0.55	142.	117.	307	18.02	0.14	174.	146.	367	19.83	0.34	115.	175.	427	20.57	0.04	41.	200.
248	20.73	0.77	14.	118.	308	19.84	0.19	10.	146.	368	18.29	0.17	44.	175.	428	19.47	0.97	294.	200.
249	20.88	0.55	28.	118.	309	19.45	0.18	191.	147.	369	20.34	0.25	26.	175.	429	20.30	0.22	311	200.
250	20.80	0.05	69.	118.	310	21.02	0.16	275.	147.	370	21.35	1.99	220.	176.	430	19.37	0.98	51.	200.
251	19.78	0.17	285.	118.	311	20.25	0.32	105.	147.	371	19.51	0.20	77.	176.	431	20.96	0.52	298.	201.
252	19.44	0.85	25.	119.	312	18.02	1.07	165.	148.	372	20.61	0.49	292.	176.	432	20.92	0.12	190.	202.
253	20.72	0.43	44.	119.	313	18.27	1.02	314.	148.	373	20.85	0.43	253.	177.	433	20.02	0.48	42.	202.
254	20.59	0.27	58.	120.	314	20.51	0.37	273.	149.	374	18.62	0.30	141.	177.	434	18.76	1.16	307.	203.
255	19.96	0.66	71.	120.	315	20.16	0.33	14.	149.	375	19.83	0.26	195.	178.	435	19.97	0.37	126.	203.
256	20.46	0.32	287	121.	316	19.87	0.23	241.	150.	376	19.40	1.05	100.	178.	436	20.11	0.87	243.	204.
257	17.53	0.91	228.	122.	317	19.75	0.25	304.	150.	377	20.43	0.42	125.	179.	437	18.65	1.22	232.	204.
258	20.70	0.42	290.	122.	318	20.49	0.42	144.	153.	378	19.22	0.19	311.	180.	438	21.19	0.32	63.	205.
259	18.52	0.89	257.	122.	319	19.00	0.53	250.	153.	379	20.20	0.28	78.	181.	439	20.62	0.34	295.	206.
260	20.66	0.94	94.	122.	320	19.39	0.74	246.	153.	380	20.08	0.77	172.	181.	440	19.10	0.12	165.	206.
261	19.12	1.01	233.	122.	321	21.32	0.13	161.	153.	381	19.29	0.31	107.	181.	441	21.31	0.32	302.	207.
262	19.16	0.96	134.	123.	322	20.60	0.44	179.	154.	382	19.59	0.07	147.	181.	442	19.20	0.81	52.	207.
263	20.09	0.26	44.	124.	323	18.37	0.14	186.	154.	383	19.42	0.22	303.	183.	443	19.63	0.08	156.	207.
264	20.56	0.47	107.	124.	324	20.15	0.14	301.	155.	384	19.81	0.25	256.	183.	444	19.67	0.75	60.	208.
265	20.19	1.00	94.	124.	325	18.65	1.02	175.	155.	385	20.56	0.17	105.	184.	445	20.95	0.59	298.	208.
266	18.53	0.15	52.	125.	326	18.80	1.25	246.	155.	386	20.83	0.34	93.	184.	446	20.28	0.49	267.	209.
267	19.59	0.85	216.	128.	327	20.10	0.37	251.	156.	387	19.43	1.02	296.	184.	447	21.05	0.39	243.	209.
268	19.06	1.07	173.	128.	328	18.98	1.76	48.	157.	388	19.75	0.23	190.	184.	448	19.10	0.11	120.	209.
269	20.50	0.45	277.	128.	329	19.39	0.33	149.	157.	389	21.11	0.52	312.	184.	449	20.37	0.33	76.	210.
270	19.75	0.26	124.	128.	330	19.57	0.54	310.	158.	390	20.75	0.36	153.	184.	450	20.27	0.29	187.	210.
271	20.01	0.88	177.	128.	331	19.62	0.62	26.	158.	391	19.66	1.01	245.	184.	451	21.83	0.66	115.	211.
272	17.05	1.64	236.	128.	332	19.34	0.68	129.	159.	392	19.47	0.36	146.	184.	452	20.07	1.11	104.	211.
273	21.45	0.70	94.	128.	333	19.47	0.35	139.	160.	393	20.81	0.82	186.	185.	453	19.73	0.22	165.	211.
274	20.63	0.15	221.	130.	334	19.35	1.01	190.	160.	394	20.08	0.46	199.	186.	454	19.02	0.10	264.	211.
275	20.41	0.48	192.	130.	335	20.10	0.90	136.	160.	395	20.56	0.42	181.	186.	455	18.07	1.01	94.	212.
276	19.88	0.17	303.	130.	336	19.09	0.23	318.	162.	396	20.76	0.56	89.	186.	456	21.24	0.63	63.	213.
277	21.54	-0.12	165.	130.	337	20.31	0.22	278.	162.	397	20.15	0.37	84.	187.	457	21.07	0.28	258.	213.
278	20.05	0.90	51.	130.	338	17.66	1.33	98.	162.	398	20.40	0.19	228.	187.	458	19.91	0.22	160.	213.
279	20.05	1.37	166.	131.	339	19.96	1.18	143.	163.	399	18.82	0.83	257.	187.	459	20.50	0.22	251.	213.
280	19.18	0.20	205.	132.	340	18.03	0.10	252.	163.	400	18.90	1.01	111.	188.	460	20.37	0.21	140.	214.
281	16.81	0.00	218.	132.	341	19.13	1.04	17.	165.	401	20.86	1.31	262.	188.	461	19.58	0.88	291.	214.
282	21.07	0.59	46.	133.	342	19.10	0.13	225.	165.	402	17.07	1.74	209.	188.	462	19.90	0.26	133.	214.
283	19.79	0.31	170.	134.	343	19.85	0.20	320.	165.	403	21.00	0.60	244.	189.	463	19.42	1.21	93.	215.
284	20.26	0.22	135.	134.	344	20.56	0.44	157.	166.	404	20.53	0.23	31.	189.	464	19.51	0.93	109.	215.
285	19.80	1.27	157.	134.	345	19.52	1.11	49.	167.	405	19.74	0.15	96.	190.	465	20.22	0.17	190.	215.
286	20.93	0.62	200.	135.	346	18.40	0.79	67.	167.	406	20.86	0.36	311.	190.	466	21.35	0.58	63.	216.
287	20.79	2.03	46.	137.	347	20.44	0.26	240.	167.	407	20.01	0.21	102.	190.	467	20.53	0.20	264.	217.
288	20.12	0.11	150.	138.	348	21.18	0.90	21.	168.	408	20.09	0.60	211.	191.	468	18.69	0.14	125.	217.
289	18.24	1.37	92.	138.	349	18.63	0.18	293.	168.	409	20.23	0.34	176.	192.	469	20.49	0.18	57.	217.
290	18.43	1.02	179.	138.	350	19.75	0.19	30.	169.	410	19.55	1.07	173.	193.	470	20.93	0.34	144.	217.
291	20.59	1.32	234.	140.	351	19.56	0.13	33.	169.	411	17.96	1.39	98.	193.	471	19.06	0.17	106.	218.
292	19.29	1.05	140.	140.	352	19.59	0.64	217.	169.	412	19.95	1.04	198.	193.	472	19.71	0.27	151.	218.
293	19.33	1.05	187.	140.	353	20.06	0.30	253.	169.	413	20.07	0.90	221.	195.	473	18.19	0.11	245.	219.
294	20.13	1.05	65.	141.	354	20.00	0.37	206.	169.	414	20.65	0.20	43.	195.	474	20.11	0.16	159.	219.
295	20.37	0.37	218.	142.	355	19.95	0.84	88.	170.	415	21.17	0.50	204.	196.	475	20.26	0.52	87.	219.
296	20.58	0.24	305.	143.	356	19.73	1.12	110.	170.	416	20.90	0.50	100.	197.	476	18.77	0.19	197.	219.
297	19.91	0.28	227.	143.	357	20.72	0.28	246.	171.	417	19.43	0.25	73.	197.	477	19.67	0.38	190.	220.
298	20.31	0.32	70.	143.	358	21.34	0.97	18.	171.	418	19.77	0.29	268.	197.	478	19.02	1.00	296.	220.
299	19.60	1.47	123.	144.	359	19.88	0.37	91.	172.	419	20.50	0.30	176.	197.	479	19.65	1.05	153.	220.
300	18.70	1.21	67.	144.	360	21.00	0.86	83.	173.	420	20.70	0.35	172.	197.	480	19.67	0.07	156.	220.

Table 10 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	19.07	0.25	142.	221.	541	18.86	0.42	106.	239.	601	19.33	1.05	261.	256.	661	19.97	0.31	59.	280.
482	19.12	0.14	55.	223.	542	17.81	1.03	143.	239.	602	18.65	0.21	59.	257.	662	19.52	1.03	13.	281.
483	20.47	0.43	182.	223.	543	19.66	0.20	84.	239.	603	18.99	0.24	203.	257.	663	20.40	0.27	238.	281.
484	20.41	0.17	180.	223.	544	19.49	0.14	251.	239.	604	20.80	0.40	86.	258.	664	19.27	0.19	49.	281.
485	20.10	0.27	112.	223.	545	20.55	0.06	224.	240.	605	20.65	0.31	277.	258.	665	18.58	0.06	104.	281.
486	19.49	0.17	218.	224.	546	19.95	0.63	99.	240.	606	20.82	1.01	73.	258.	666	18.50	0.81	37.	281.
487	19.85	0.08	99.	224.	547	19.78	0.40	112.	240.	607	19.26	0.18	227.	258.	667	17.40	0.15	88.	282.
488	19.54	0.20	245.	224.	548	20.07	0.37	228.	240.	608	20.00	0.44	280.	259.	668	21.19	0.70	83.	283.
489	20.08	0.39	144.	224.	549	20.41	0.23	67.	241.	609	19.30	0.21	103.	260.	669	21.73	0.24	74.	283.
490	19.31	0.35	267.	225.	550	18.37	0.22	197.	241.	610	19.74	0.95	224.	260.	670	19.53	0.31	214.	283.
491	19.06	0.76	90.	225.	551	19.06	0.32	130.	241.	611	20.74	0.42	76.	260.	671	19.27	0.28	20.	284.
492	20.02	0.42	209.	226.	552	19.29	0.02	154.	241.	612	17.63	0.17	270.	262.	672	18.67	0.11	256.	284.
493	20.24	0.21	33.	226.	553	21.38	0.77	315.	241.	613	19.91	0.15	56.	262.	673	18.38	0.24	104.	284.
494	20.34	0.13	179.	226.	554	19.14	0.82	115.	242.	614	20.06	0.28	22.	263.	674	19.78	0.44	270.	284.
495	19.65	0.23	171.	227.	555	19.30	0.23	38.	242.	615	17.74	0.66	216.	263.	675	19.60	0.19	217.	285.
496	19.40	0.24	84.	227.	556	17.69	0.07	145.	242.	616	19.78	0.33	79.	263.	676	19.48	0.22	92.	285.
497	19.19	0.23	123.	228.	557	19.08	-0.14	148.	243.	617	19.28	0.29	89.	263.	677	20.61	0.23	74.	286.
498	19.60	0.19	105.	228.	558	18.62	0.58	142.	243.	618	20.40	0.36	276.	265.	678	20.28	1.09	247.	286.
499	20.25	0.17	262.	228.	559	19.39	0.27	243.	243.	619	17.55	0.92	89.	265.	679	18.51	0.23	221.	287.
500	17.33	0.33	165.	228.	560	19.31	0.97	205.	243.	620	19.24	0.08	297.	265.	680	19.76	1.00	77.	287.
501	21.47	0.39	52.	228.	561	20.71	0.33	218.	243.	621	20.60	0.37	263.	265.	681	17.98	0.85	259.	287.
502	19.75	0.20	193.	229.	562	18.91	0.11	135.	243.	622	17.83	1.00	104.	266.	682	17.65	0.96	97.	289.
503	20.60	0.46	249.	229.	563	19.43	0.16	306.	244.	623	20.42	0.14	65.	267.	683	17.53	1.54	233.	290.
504	20.33	0.17	33.	229.	564	20.03	0.18	106.	244.	624	20.50	0.22	212.	267.	684	18.72	0.18	76.	291.
505	19.89	0.30	180.	229.	565	19.08	0.14	79.	244.	625	19.66	0.97	305.	267.	685	18.75	0.32	83.	291.
506	17.46	0.17	136.	229.	566	20.75	0.26	255.	245.	626	20.27	0.21	221.	268.	686	20.47	0.06	31.	292.
507	18.66	0.16	288.	229.	567	19.34	0.24	226.	245.	627	18.47	0.17	92.	268.	687	19.64	0.20	259.	292.
508	20.33	0.13	148.	229.	568	19.53	0.01	156.	245.	628	19.51	1.04	12.	268.	688	20.62	0.19	300.	292.
509	18.66	0.24	84.	230.	569	19.82	0.18	119.	245.	629	20.15	0.62	294.	268.	689	18.67	0.39	99.	292.
510	20.31	0.33	78.	230.	570	20.77	0.16	83.	245.	630	16.94	1.37	301.	268.	690	18.98	-0.03	82.	293.
511	19.83	1.23	226.	231.	571	18.61	0.05	148.	246.	631	21.10	0.29	266.	269.	691	19.83	0.16	16.	293.
512	20.41	0.21	89.	231.	572	20.24	0.27	197.	246.	632	19.04	0.14	74.	269.	692	19.92	0.52	234.	294.
513	20.12	0.18	59.	231.	573	19.77	0.25	88.	246.	633	21.03	0.32	44.	269.	693	18.24	0.12	238.	295.
514	20.48	0.44	66.	232.	574	19.32	0.64	240.	246.	634	19.83	0.33	65.	269.	694	21.61	0.27	255.	295.
515	18.87	0.18	108.	232.	575	19.02	0.14	141.	247.	635	20.15	0.22	79.	270.	695	20.02	0.09	225.	297.
516	21.24	0.35	201.	232.	576	19.00	0.20	99.	247.	636	17.45	0.98	309.	270.	696	20.34	0.27	314.	297.
517	18.84	0.12	184.	232.	577	19.78	0.45	78.	248.	637	20.53	0.34	41.	271.	697	21.26	0.30	263.	297.
518	18.52	0.12	152.	233.	578	20.48	0.29	220.	248.	638	20.89	0.60	15.	271.	698	18.80	0.25	221.	298.
519	19.93	0.20	187.	233.	579	21.08	0.51	32.	248.	639	18.51	1.27	35.	271.	699	18.15	0.15	103.	298.
520	18.44	0.16	193.	234.	580	18.37	0.25	156.	249.	640	19.31	0.23	260.	271.	700	19.43	0.27	89.	298.
521	19.77	0.19	264.	234.	581	19.60	0.98	86.	249.	641	19.16	0.29	250.	272.	701	19.77	0.17	79.	298.
522	19.57	-0.12	131.	234.	582	17.40	0.74	68.	249.	642	19.86	0.28	14.	272.	702	18.75	0.88	241.	299.
523	19.20	0.72	146.	234.	583	19.60	0.22	240.	250.	643	18.89	0.18	225.	273.	703	20.39	0.14	226.	299.
524	16.87	1.28	34.	235.	584	19.89	0.07	80.	250.	644	20.55	0.42	98.	273.	704	19.90	0.91	24.	299.
525	20.05	0.24	119.	235.	585	18.90	0.27	104.	250.	645	18.82	0.22	107.	273.	705	17.31	1.16	98.	299.
526	18.13	0.24	92.	235.	586	19.92	1.24	209.	251.	646	20.63	0.47	64.	274.	706	21.73	0.90	309.	300.
527	19.10	0.50	196.	236.	587	20.31	0.29	243.	252.	647	18.99	0.21	74.	274.	707	21.07	0.19	255.	300.
528	19.20	0.17	61.	236.	588	18.66	0.17	29.	252.	648	20.10	0.30	221.	274.	708	20.07	1.47	259.	300.
529	18.50	0.12	107.	237.	589	19.92	0.16	309.	252.	649	19.41	1.18	254.	274.	709	20.71	0.51	268.	300.
530	19.94	0.75	245.	237.	590	20.32	1.07	247.	253.	650	19.52	0.21	30.	275.	710	20.28	0.33	87.	300.
531	20.14	0.47	312.	237.	591	20.21	0.22	288.	254.	651	21.07	0.65	18.	276.	711	19.30	0.66	220.	301.
532	21.08	0.28	308.	237.	592	20.48	0.46	82.	254.	652	18.31	0.21	95.	276.	712	20.08	0.14	82.	301.
533	17.63	0.16	132.	238.	593	19.01	0.15	110.	255.	653	20.97	0.38	298.	276.	713	18.99	0.22	240.	302.
534	19.00	0.18	220	238.	594	19.65	0.33	282.	256.	654	19.25	0.26	218.	277.	714	19.42	0.17	75.	303.
535	20.06	0.05	92.	238.	595	17.97	1.15	69.	256.	655	20.70	0.50	243.	277.	715	19.26	0.21	223.	303.
536	19.29	1.24	35.	238.	596	19.24	0.22	295.	256.	656	19.29	0.25	315.	277.	716	18.58	1.05	11.	303.
537	20.57	0.35	210.	238.	597	19.81	0.88	287.	256.	657	17.65	0.77	40.	278.	717	19.76	0.31	293.	304.
538	19.05	0.25	281.	238.	598	20.33	0.46	32.	256.	658	19.61	0.32	262.	279.	718	19.45	0.23	257.	304.
539	18.10	1.33	56.	238.	599	18.97	1.26	20.	256.	659	20.31	0.14	228.	279.	719	19.82	0.24	70.	305.
540	19.06	0.12	189.	239.	600	20.43	0.61	255.	256.	660	18.17	1.16	107.	280.	720	19.47	0.38	221.	306.

Table 10 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	19.91	0.19	39.	306.	781	19.47	0.12	178.	326.	841	19.03	0.70	196.	345.	901	20.55	0.17	132.	357.
722	19.91	0.37	87.	307.	782	20.66	0.31	286.	326.	842	19.88	0.06	141.	345.	902	18.82	0.21	150.	358.
723	20.75	0.25	69.	307.	783	18.28	0.99	64.	326.	843	21.11	0.27	84.	346.	903	18.09	0.19	138.	358.
724	20.78	0.45	93.	307.	784	20.69	0.48	199.	327.	844	18.06	0.79	129.	346.	904	20.86	0.52	231.	358.
725	20.48	0.69	77.	308.	785	19.71	0.07	81.	327.	845	18.88	0.31	124.	346.	905	18.76	0.13	318.	358.
726	19.77	0.37	6.	308.	786	19.57	1.13	21.	327.	846	20.94	0.18	283.	346.	906	19.60	0.80	203.	358.
727	20.52	0.61	245.	308.	787	16.24	0.63	86.	327.	847	20.16	0.30	183.	346.	907	20.01	1.06	185.	358.
728	19.27	0.19	311.	309.	788	19.13	0.22	97.	328.	848	19.54	0.08	198.	346.	908	19.99	0.20	80.	359.
729	20.94	0.80	16.	309.	789	19.61	0.92	61.	328.	849	20.48	0.26	247.	346.	909	20.09	0.19	266.	359.
730	20.31	0.10	309.	309.	790	19.81	0.22	205.	329.	850	19.59	1.07	34.	347.	910	21.02	0.29	181.	359.
731	20.42	0.27	248.	309.	791	19.78	0.11	248.	329.	851	20.30	0.40	167.	347.	911	21.11	0.27	191.	359.
732	21.43	0.54	13.	309.	792	18.13	0.15	41.	329.	852	19.67	0.99	294.	347.	912	19.39	0.93	257.	359.
733	19.11	0.09	185.	310.	793	19.52	0.31	213.	329.	853	20.30	0.26	100.	347.	913	17.26	1.10	212.	359.
734	21.10	0.72	83.	311.	794	18.93	0.19	239.	330.	854	19.79	0.22	171.	348.	914	18.81	0.23	121.	360.
735	20.48	0.20	40.	311.	795	20.19	0.38	101.	330.	855	18.80	0.15	77.	348.	915	18.65	0.08	138.	360.
736	19.06	1.13	255.	312.	796	18.28	0.15	54.	330.	856	19.29	0.88	279.	348.	916	20.13	-0.04	216.	360.
737	18.51	0.18	210.	312.	797	19.60	0.12	30.	330.	857	20.02	0.17	116.	348.	917	19.97	0.20	225.	360.
738	18.59	0.19	181.	313.	798	19.26	0.21	185.	330.	858	20.11	0.09	215.	348.	918	20.90	0.13	233.	361.
739	18.95	0.19	49.	313.	799	19.53	0.27	299.	331.	859	19.82	0.37	183.	348.	919	20.48	0.41	84.	361.
740	20.48	0.20	35.	314.	800	19.16	0.18	58.	332.	860	18.75	0.15	209.	348.	920	20.57	0.44	133.	361.
741	19.28	0.90	66.	314.	801	18.88	0.12	80.	333.	861	18.40	0.14	140.	349.	921	19.70	0.22	28.	361.
742	20.08	0.16	314.	314.	802	18.65	1.20	11.	333.	862	19.35	0.50	17.	349.	922	17.52	1.01	198.	362.
743	18.11	0.14	184.	314.	803	19.17	-0.02	245.	333.	863	19.68	0.20	71.	349.	923	18.58	0.19	116.	362.
744	18.42	0.18	61.	314.	804	17.50	0.96	200.	333.	864	18.78	0.14	289.	349.	924	20.17	0.20	211.	362.
745	20.02	0.26	298.	315.	805	19.21	0.31	251.	334.	865	20.32	0.25	197.	349.	925	19.58	0.19	118.	363.
746	19.83	0.19	91.	315.	806	20.00	0.08	176.	334.	866	20.84	0.13	218.	349.	926	20.31	0.25	250.	364.
747	20.38	0.13	96.	315.	807	20.10	0.17	17.	334.	867	19.96	0.34	313.	350.	927	19.35	0.29	215.	364.
748	19.05	0.17	241.	316.	808	20.88	0.25	108.	334.	868	20.12	0.35	205.	350.	928	19.93	0.32	224.	365.
749	17.13	1.67	17.	316.	809	19.41	0.16	94.	335.	869	20.63	0.31	120.	350.	929	19.17	0.90	32.	365.
750	20.89	0.27	55.	316.	810	19.69	0.16	119.	336.	870	19.26	0.92	78.	351.	930	20.06	1.08	80.	365.
751	19.37	0.25	69.	316.	811	20.49	0.52	292.	336.	871	20.18	0.24	109.	351.	931	19.18	0.14	95.	365.
752	18.43	0.15	190.	316.	812	20.00	0.16	223.	336.	872	19.71	0.11	172.	351.	932	21.15	0.19	73.	365.
753	18.13	0.17	78.	316.	813	17.88	0.21	247.	336.	873	20.77	0.39	107.	351.	933	19.50	1.10	233.	365.
754	20.42	1.03	264.	317.	814	19.69	0.24	125.	336.	874	20.01	0.21	185.	352.	934	19.46	0.13	115.	365.
755	19.85	0.28	49.	317.	815	19.25	0.14	18.	337.	875	20.05	0.38	199.	352.	935	20.98	0.38	26.	365.
756	20.65	0.25	222.	317.	816	17.45	0.82	206.	337.	876	19.60	0.29	177.	352.	936	19.91	0.52	208.	366.
757	19.72	0.65	38.	317.	817	20.46	0.23	200.	338.	877	20.57	0.27	137.	352.	937	19.28	1.24	45.	366.
758	19.62	0.20	232.	317.	818	18.68	0.23	104.	338.	878	20.53	0.23	290.	352.	938	18.30	1.17	35.	366.
759	19.70	0.19	213.	317.	819	20.72	0.40	168.	338.	879	19.79	0.25	99.	352.	939	19.44	1.15	205.	366.
760	19.76	1.21	90.	318.	820	21.13	0.76	11.	339.	880	18.37	0.94	116.	353.	940	20.43	0.31	164.	366.
761	17.79	0.17	188.	318.	821	18.36	0.30	205.	339.	881	20.38	0.31	232.	353.	941	20.49	0.38	51.	366.
762	19.99	0.30	239.	319.	822	19.73	0.30	127.	340.	882	21.09	0.54	308.	353.	942	17.56	0.53	180.	367.
763	19.46	1.14	291.	319.	823	20.73	0.37	171.	340.	883	18.11	0.23	147.	353.	943	20.27	0.10	202.	368.
764	19.29	0.87	313.	319.	824	18.94	0.12	191.	340.	884	18.42	1.23	314.	353.	944	19.61	0.19	112.	368.
765	17.50	1.04	69.	319.	825	20.84	0.21	241.	340.	885	19.41	0.31	183.	354.	945	20.09	0.26	31.	368.
766	18.78	1.07	223.	320.	826	19.57	0.38	85.	340.	886	20.45	0.25	132.	354.	946	20.38	0.10	89.	368.
767	19.44	0.25	190.	322.	827	19.02	0.14	109.	341.	887	20.62	0.39	18.	354.	947	19.60	0.92	195.	368.
768	21.47	0.56	35.	322.	828	19.13	0.36	200.	341.	888	19.38	0.67	88.	354.	948	18.82	0.90	181.	369.
769	19.97	1.25	253.	322.	829	19.21	0.16	44.	341.	889	19.75	0.11	220.	354.	949	20.65	0.22	262.	370.
770	20.19	0.21	256.	323.	830	18.32	0.21	148.	342.	890	19.47	-0.18	141.	354.	950	21.25	0.40	82.	370.
771	20.25	0.22	236.	323.	831	20.08	0.19	292.	342.	891	18.67	0.03	148.	354.	951	19.11	0.38	195.	370.
772	21.31	0.44	30.	324.	832	19.06	0.18	97.	342.	892	20.44	1.05	300.	355.	952	18.59	0.21	128.	370.
773	19.55	0.20	184.	324.	833	19.27	0.17	185.	342.	893	20.45	0.27	258.	355.	953	19.58	0.16	118.	371.
774	20.08	0.13	240.	324.	834	17.53	1.00	125.	342.	894	18.21	0.26	175.	355.	954	19.59	0.17	173.	371.
775	20.02	0.18	97.	324.	835	18.16	0.09	190.	343.	895	18.07	0.12	215.	355.	955	18.26	0.13	179.	371.
776	20.23	0.23	77.	324.	836	20.05	0.26	255.	343.	896	18.44	0.16	143.	356.	956	19.16	0.18	110.	371.
777	17.90	0.94	210.	324.	837	18.74	1.34	243.	344.	897	19.64	0.51	87.	356.	957	19.63	0.23	14.	372.
778	20.25	0.21	196.	325.	838	19.69	0.13	276.	345.	898	20.68	0.31	226.	357.	958	18.33	1.13	69.	372.
779	18.34	0.10	248.	325.	839	21.17	0.09	103.	345.	899	20.63	0.35	260.	357.	959	19.25	0.11	272.	373.
780	19.00	0.83	18.	326.	840	20.89	0.04	287.	345.	900	19.64	0.24	58.	357.	960	20.66	0.32	181.	373.

Table 10 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	19.78	0.10	137.	373.	1021	20.25	0.22	229.	391.	1081	19.61	0.26	94.	413.	1141	19.70	1.11	172.	437.
962	19.79	0.19	113.	373.	1022	19.94	0.30	89.	391.	1082	17.85	0.84	253.	413.	1142	21.70	0.47	235.	437.
963	18.15	0.14	232.	374.	1023	21.48	0.22	192.	392.	1083	19.39	1.08	305.	414.	1143	19.86	0.61	162.	439.
964	19.62	0.38	47.	374.	1024	19.92	0.22	288.	392.	1084	19.93	0.37	118.	414.	1144	20.36	1.14	239.	439.
965	20.00	0.17	167.	375.	1025	20.55	0.25	139.	392.	1085	17.45	0.22	136.	414.	1145	17.98	0.14	109.	439.
966	20.44	0.38	67.	375.	1026	17.06	1.39	108.	393.	1086	19.62	0.16	278.	414.	1146	20.15	0.95	79.	440.
967	20.32	0.28	293.	375.	1027	18.53	1.10	150.	393.	1087	19.31	0.14	84.	414.	1147	20.07	0.35	115.	440.
968	17.22	0.97	90.	375.	1028	19.28	0.90	294.	393.	1088	20.08	0.17	206.	414.	1148	19.82	0.80	182.	441.
969	17.72	1.54	241.	376.	1029	20.99	1.44	218.	394.	1089	20. 5	0.23	195.	415.	1149	21.05	1.00	187.	441.
970	19.54	0.87	105.	376.	1030	20.38	0.26	128.	394.	1090	19.65	0.19	287.	415.	1150	19.40	0.89	97.	441.
971	19.23	0.31	46.	376.	1031	20.26	0.20	45.	395.	1091	20.50	0.40	282.	416.	1151	18.73	0.18	133.	441.
972	19.86	0.12	137.	376.	1032	19.05	0.12	105.	395.	1092	21.00	0.23	243.	416.	1152	21.02	0.36	177.	442.
973	20.75	0.54	11.	376.	1033	18.68	0.17	94.	395.	1093	18.79	0.16	9.	417.	1153	19.70	0.26	164.	442.
974	20.28	0.16	117.	377.	1034	18.44	0.15	235.	396.	1094	19.42	0.37	120.	417.	1154	19.32	0.14	77.	443.
975	19.74	0.82	29.	377.	1035	20.34	0.36	161.	396.	1095	19.16	0.98	291.	417.	1155	20.15	0.35	43.	443.
976	20.21	0.43	131.	377.	1036	21.69	0.54	138.	397.	1096	19.50	0.37	134.	417.	1156	18.68	1.18	70.	444.
977	19.61	0.58	134.	378.	1037	20.68	0.33	275.	397.	1097	20.35	0.41	21.	417.	1157	18.64	1.00	164.	446.
978	20.50	0.27	77.	378.	1038	19.70	0.17	144.	397.	1098	19.48	1.15	254.	418.	1158	19.48	1.08	312.	447.
979	18.85	0.12	260.	378.	1039	19.46	0.12	70.	397.	1099	18.84	0.06	37.	418.	1159	20.94	0.55	84.	448.
980	20.79	0.56	227.	378.	1040	19.10	1.05	283.	398.	1100	20.74	0.67	138.	418.	1160	17.29	1.12	95.	448.
981	20.09	-0.16	148.	378.	1041	17.37	0.91	174.	398.	1101	19.36	0.55	130.	418.	1161	19.34	0.94	125.	448.
982	19.97	0.26	173.	378.	1042	20.15	0.19	63.	398.	1102	20.87	0.35	122.	419.	1162	18.83	1.21	290.	448.
983	20.08	0.17	120.	379.	1043	19.15	0.90	211.	399.	1103	19.91	0.96	244.	419.	1163	19.70	0.19	299.	449.
984	19.86	0.20	56.	380.	1044	19.30	0.32	77.	399.	1104	18.93	0.24	45.	419.	1164	21.20	0.77	76.	449.
985	19.45	0.23	205.	380.	1045	20.72	0.36	153.	399.	1105	19.98	0.26	194.	419.	1165	20.80	0.79	131.	449.
986	20.37	1.08	281.	380.	1046	19.70	0.39	23.	400.	1106	18.40	1.04	260.	420.	1166	20.09	0.24	81.	449.
987	20.22	-0.27	151.	380.	1047	17.97	0.12	226.	401.	1107	17.60	0.90	292.	420.	1167	20.53	1.02	280.	449.
988	18.16	0.28	27.	380.	1048	19.80	0.17	260.	401.	1108	20.60	0.42	287.	421.	1168	20.51	0.13	180.	449.
989	20.51	0.06	162.	380.	1049	19.27	0.24	87.	401.	1109	20.22	0.32	106.	421.	1169	21.66	1.08	165.	450.
990	20.31	0.21	290.	380.	1050	19.56	1.07	248.	402.	1110	19.70	0.25	26.	422.	1170	20.93	0.92	148.	450.
991	20.30	-0.08	155.	381.	1051	19.53	0.26	244.	402.	1111	20.42	0.30	300.	422.	1171	19.60	1.04	203.	450.
992	19.14	0.19	211.	381.	1052	20.02	0.46	77.	402.	1112	20.26	0.11	5.	422.	1172	19.58	0.90	280.	451.
993	20.61	0.29	20.	382.	1053	16.60	1.68	281.	402.	1113	20.38	0.27	206.	423.	1173	21.17	0.14	132.	452.
994	20.66	1.05	222.	382.	1054	20.75	0.65	25.	403.	1114	19.11	0.90	135.	424.	1174	20.59	0.95	97.	452.
995	19.58	0.03	28.	382.	1055	20.22	0.22	67.	404.	1115	18.56	0.14	40.	424.	1175	20.28	0.40	314.	452.
996	19.94	0.62	119.	384.	1056	18.91	0.11	109.	404.	1116	19.92	0.08	14.	424.	1176	21.07	0.82	92.	453.
997	19.28	0.15	164.	384.	1057	20.37	0.15	143.	405.	1117	20.39	0.30	287.	424.	1177	20.37	0.47	48.	453.
998	20.55	0.08	184.	384.	1058	20.90	0.63	20.	406.	1118	20.35	0.57	8.	424.	1178	20.07	0.31	107.	453.
999	21.31	0.51	260.	384.	1059	20.44	0.86	118.	406.	1119	20.54	0.47	203.	425.	1179	20.16	0.26	21.	456.
1000	17.59	0.79	157.	385.	1060	20.59	0.44	258.	407.	1120	19.01	0.19	238.	425.	1180	20.61	1.11	199.	457.
1001	19.35	0.07	218.	385.	1061	19.56	0.71	227.	407.	1121	17.72	0.15	112.	426.	1181	18.84	1.20	47.	457.
1002	18.85	0.58	277.	385.	1062	19.23	0.28	110.	407.	1122	18.90	0.17	89.	427.	1182	20.92	1.02	317.	457.
1003	20.30	0.90	177.	386.	1063	19.42	1.01	141.	408.	1123	18.88	0.16	109.	427.	1183	21.20	0.32	312.	458.
1004	19.80	1.07	70.	386.	1064	18.13	0.16	189.	408.	1124	21.07	0.41	207.	428.	1184	20.17	0.98	158.	458.
1005	19.20	0.09	144.	386.	1065	20.42	0.27	81.	408.	1125	19.26	0.22	230.	428.	1185	20.08	0.30	150.	459.
1006	18.10	0.20	26.	387.	1066	19.79	0.86	254.	409.	1126	18.17	0.34	130.	428.	1186	19.21	0.63	115.	459.
1007	19.65	1.30	124.	387.	1067	20.32	0.18	133.	409.	1127	20.30	0.25	290.	428.	1187	19.34	1.00	40.	459.
1008	19.71	0.22	115.	387.	1068	18.89	0.17	68.	409.	1128	20.58	0.22	10.	429.	1188	18.78	1.05	103.	459.
1009	20.30	0.22	65.	388.	1069	19.87	0.09	95.	409.	1129	18.93	0.22	212.	429.	1189	19.78	1.08	244.	460.
1010	20.30	0.21	189.	388.	1070	17.52	1.33	172.	409.	1130	20.98	0.50	153.	430.	1190	20.37	0.44	77.	460.
1011	20.12	0.65	158.	388.	1071	19.13	0.99	223.	409.	1131	20.38	0.36	193.	430.	1191	20.58	0.48	223.	460.
1012	18.60	0.93	210.	389.	1072	21.31	0.01	129.	410.	1132	21.07	0.50	228.	431.	1192	20.30	0.28	305.	461.
1013	19.26	0.88	185.	389.	1073	20.34	0.24	143.	410.	1133	20.46	0.29	112.	432.	1193	19.97	0.22	219.	462.
1014	19.67	0.93	95.	390.	1074	19.54	0.94	211.	410.	1134	20.99	0.48	120.	432.	1194	20.48	0.39	27.	462.
1015	19.24	0.20	22.	390.	1075	20.58	0.35	40.	411.	1135	20.96	0.46	164.	433.	1195	21.74	0.73	317.	462.
1016	19.47	1.05	18.	390.	1076	19.64	0.14	35.	411.	1136	20.96	0.50	207.	434.	1196	17.13	3.52	187.	463.
1017	20.96	0.27	188.	391.	1077	20.41	0.19	25.	411.	1137	20.82	0.35	105.	434.	1197	18.53	1.25	310.	463.
1018	20.95	0.25	179.	391.	1078	18.18	1.37	17.	412.	1138	19.71	0.21	136.	434.	1198	20.08	0.12	306.	463.
1019	19.27	0.24	240.	391.	1079	19.80	0.37	112.	412.	1139	18.98	0.19	159.	435.	1199	20.52	0.48	89.	463.
1020	19.71	0.14	220.	391.	1080	19.62	0.25	81.	412.	1140	19.17	0.90	213.	435.	1200	19.08	0.18	203.	464.

Table 10 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1201	18.77	0.25	193.	464.	1227	19.23	1.16	50.	474.	1253	20.50	0.42	184.	489.	1279	20.84	0.47	22.	498.
1202	18.55	0.15	253.	465.	1228	19.14	0.22	54.	475.	1254	20.19	0.38	243.	489.	1280	20.83	0.25	95.	498.
1203	20.15	0.36	41.	465.	1229	20.18	0.41	28.	475.	1255	17.94	0.14	75.	490.	1281	20.28	0.25	204.	499.
1204	21.36	0.52	22.	466.	1230	20.95	0.50	169.	476.	1256	18.99	1.18	35.	490.	1282	20.03	0.18	156.	499.
1205	18.12	0.14	111.	466.	1231	20.26	0.28	78.	476.	1257	19.31	0.91	301.	491.	1283	16.09	1.74	240.	499.
1206	20.34	0.46	218.	467.	1232	19.10	0.17	156.	476.	1258	20.59	0.38	155.	491.	1284	18.99	1.05	165.	500.
1207	21.63	0.42	207.	468.	1233	19.77	0.21	233.	477.	1259	19.28	0.20	65.	491.	1285	20.24	0.41	96.	501.
1208	21.47	1.63	73.	468.	1234	19.50	1.15	202.	477.	1260	20.54	0.23	279.	492.	1286	19.42	1.03	186.	502.
1209	20.53	0.48	167.	468.	1235	20.64	0.33	20.	478.	1261	16.30	0.86	122.	492.	1287	20.94	0.39	284.	502.
1210	20.50	0.17	257.	468.	1236	20.21	0.37	24.	478.	1262	20.57	0.93	171.	492.	1288	21.04	0.31	214.	503.
1211	20.20	0.26	282.	469.	1237	19.02	0.14	88.	479.	1263	19.66	0.17	108.	493.	1289	20.76	0.34	85.	504.
1212	20.70	0.47	193.	469.	1238	20.97	0.31	114.	480.	1264	20.25	0.15	57.	493.	1290	20.12	0.41	159.	505.
1213	18.38	0.18	186.	469.	1239	21.52	0.51	171.	480.	1265	20.90	0.23	291.	493.	1291	20.27	0.44	211.	505.
1214	19.17	1.02	68.	469.	1240	19.32	0.18	123.	480.	1266	20.21	0.16	75.	493.	1292	21.19	0.53	278.	505.
1215	18.48	1.10	247.	470.	1241	16.84	0.89	163.	481.	1267	20.50	0.18	202.	494.	1293	20.30	0.31	179.	505.
1216	20.80	0.27	52.	471.	1242	19.16	0.12	71.	481.	1268	20.36	0.56	166.	494.	1294	19.80	0.23	176.	505.
1217	20.89	0.63	159.	472.	1243	20.68	0.41	304.	482.	1269	20.78	0.40	296.	495.	1295	18.49	0.15	228.	506.
1218	19.59	0.29	6.	472.	1244	19.24	0.17	116.	482.	1270	18.95	0.83	153.	495.	1296	20.78	0.41	214.	506.
1219	19.40	0.19	82.	472.	1245	20.10	0.31	193.	483.	1271	20.04	0.06	244.	495.	1297	21.11	0.29	78.	507.
1220	19.74	0.31	21.	472.	1246	19.42	1.08	244.	484.	1272	20.63	0.49	111.	496.	1298	19.65	0.99	281.	507.
1221	20.11	0.19	10.	472.	1247	19.46	1.02	138.	484.	1273	19.67	1.39	79.	496.	1299	18.97	0.15	218.	508.
1222	17.67	1.41	111.	473.	1248	21.00	0.90	187.	484.	1274	19.42	1.02	300.	497.	1300	18.97	0.98	164.	508.
1223	19.28	0.83	281.	473.	1249	19.25	0.69	122.	486.	1275	17.57	1.09	277.	497.	1301	16.21	0.73	71.	508.
1224	20.80	0.32	154.	473.	1250	19.24	0.96	104.	486.	1276	18.65	0.13	29.	497.	1302	19.83	0.33	95.	508.
1225	19.57	1.09	144.	474.	1251	20.59	0.93	28.	487.	1277	18.12	1.20	247.	498.	1303	17.16	0.86	86.	509.
1226	20.28	0.40	200.	474.	1252	19.97	0.90	212.	489.	1278	19.82	0.17	107.	498.					

Table 11 : Magnitudes, Colors and Positions of Stars in NGC 2108.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	18.59	1.23	221.	5.	61	20.23	0.44	265.	79.	121	19.71	0.31	239.	135.	181	20.24	0.25	25.	188.
2	18.55	0.13	245.	5.	62	19.56	0.86	48.	82.	122	19.67	0.82	265.	136.	182	18.53	0.05	291.	189.
3	17.62	1.19	285.	5.	63	19.94	0.09	273.	83.	123	19.75	0.96	19.	137.	183	19.15	1.05	258.	191.
4	20.15	0.22	62.	6.	64	20.44	0.14	6.	83.	124	18.50	1.13	158.	137.	184	20.25	0.14	205.	191.
5	19.51	0.17	38.	8.	65	19.05	0.96	108.	83.	125	20.56	0.24	28.	138.	185	18.90	0.22	77.	192.
6	19.67	0.20	153.	9.	66	20.38	0.87	77.	84.	126	19.52	0.88	102.	138.	186	19.98	0.47	131.	192.
7	19.73	0.23	283.	11.	67	19.97	0.09	188.	85.	127	19.59	1.04	9.	138.	187	20.29	0.20	202.	195.
8	20.47	0.13	53.	11.	68	19.38	0.78	47.	86.	128	19.68	0.10	197.	139.	188	19.68	0.20	296.	195.
9	18.47	0.16	203.	13.	69	19.17	0.08	224.	88.	129	20.10	0.17	205.	139.	189	19.81	0.83	25.	196.
10	18.50	0.07	258.	15.	70	19.30	0.97	91.	88.	130	20.46	0.28	84.	142.	190	20.22	0.15	191.	196.
11	20.02	0.61	12.	15.	71	19.49	0.20	45.	89.	131	20.28	0.18	60.	144.	191	20.39	0.68	246.	200.
12	19.49	0.99	288.	16.	72	17.27	-0.01	229.	89.	132	18.81	0.82	159.	144.	192	19.48	0.51	118.	200.
13	15.19	-0.08	225.	18.	73	19.81	0.26	243.	91.	133	19.83	0.28	101.	146.	193	19.23	0.80	158.	201.
14	20.01	0.94	123.	21.	74	18.21	0.01	48.	93.	134	17.43	0.03	223.	147.	194	19.52	0.92	265.	202.
15	18.39	1.28	293.	23.	75	20.11	0.58	131.	95.	135	20.29	0.11	106.	147.	195	18.96	0.16	50.	202.
16	20.18	0.16	100.	23.	76	20.14	1.00	241.	95.	136	20.46	0.19	287.	148.	196	19.88	0.30	95.	204.
17	18.62	1.28	96.	23.	77	20.27	0.47	199.	97.	137	20.50	0.64	65.	148.	197	17.73	1.18	126.	204.
18	19.17	0.79	67.	24.	78	20.72	0.50	10.	98.	138	19.17	0.99	121.	149.	198	20.61	0.29	251.	204.
19	20.24	0.05	133.	24.	79	19.94	1.00	290.	98.	139	18.68	0.99	89.	149.	199	19.81	0.98	256.	206.
20	18.61	0.01	68.	30.	80	20.15	0.14	161.	98.	140	17.15	0.00	153.	150.	200	20.55	0.22	265.	207.
21	20.15	0.15	42.	31.	81	18.81	0.57	235.	100.	141	18.36	1.20	294.	150.	201	19.41	1.03	103.	207.
22	19.48	0.92	72.	37.	82	18.86	0.11	86.	101.	142	19.76	0.28	59.	152.	202	19.41	0.88	129.	209.
23	20.67	1.34	255.	38.	83	18.01	1.24	15.	102.	143	19.54	0.27	45.	155.	203	19.57	0.24	25.	213.
24	19.76	0.16	171.	39.	84	19.60	1.00	243.	102.	144	18.84	0.54	58.	155.	204	20.32	0.41	212.	213.
25	15.44	0.57	293.	40.	85	20.52	0.11	50.	103.	145	18.70	0.06	261.	156.	205	19.15	0.29	74.	216.
26	19.93	0.10	72.	43.	86	17.64	1.55	167.	103.	146	19.75	0.26	12.	156.	206	19.18	0.40	136.	216.
27	18.42	1.15	58.	44.	87	18.23	1.22	64.	107.	147	19.53	0.11	237.	158.	207	19.04	0.83	307.	219.
28	17.04	1.58	254.	45.	88	20.21	0.16	32.	107.	148	19.49	0.90	16.	159.	208	20.40	0.26	54.	220.
29	18.00	1.25	5.	46.	89	20.15	0.28	45.	108.	149	17.74	-0.05	25.	160.	209	19.34	0.94	312.	220.
30	20.03	0.34	216.	48.	90	19.62	0.92	122.	108.	150	20.72	0.22	34.	160.	210	19.59	0.23	147.	220.
31	19.70	0.17	276.	48.	91	20.19	0.17	196.	108.	151	20.01	0.34	85.	161.	211	16.75	1.49	11.	220.
32	20.29	0.11	65.	48.	92	19.50	0.13	290.	109.	152	19.77	0.15	126.	162.	212	19.53	0.27	95.	223.
33	19.62	0.18	101.	49.	93	20.48	0.13	277.	110.	153	18.75	1.12	177.	163.	213	19.87	0.31	182.	223.
34	18.92	0.15	159.	50.	94	19.61	0.96	281.	110.	154	19.08	0.12	268.	164.	214	19.41	0.92	116.	223.
35	20.31	0.49	11.	51.	95	18.01	1.18	78.	111.	155	19.30	0.96	121.	164.	215	20.21	0.28	163.	224.
36	19.75	0.05	17.	51.	96	19.52	0.12	237.	112.	156	20.97	0.49	37.	165.	216	19.07	0.95	314.	224.
37	19.22	0.75	41.	52.	97	19.61	1.11	140.	112.	157	19.07	0.70	96.	165.	217	19.24	0.92	191.	225.
38	18.01	0.10	251.	54.	98	20.00	0.15	92.	112	158	15.84	0.63	215.	166.	218	19.29	1.00	250.	225.
39	18.95	0.92	202.	54.	99	20.56	0.46	20.	113.	159	19.99	0.23	32.	167.	219	17.91	0.00	127.	226.
40	19.61	-0.04	259.	56.	100	20.35	0.19	105.	113.	160	19.76	0.18	141.	168.	220	19.87	1.18	43.	227.
41	18.54	1.16	107.	56.	101	19.73	0.09	304.	115.	161	19.23	0.09	263.	169.	221	20.42	0.03	52.	227.
42	19.54	1.04	163.	57.	102	19.36	1.02	15.	116.	162	20.00	0.31	25.	169.	222	19.41	0.88	218.	228.
43	17.14	0.00	277.	58.	103	18.79	1.17	8.	117.	163	19.75	0.92	136.	170.	223	19.74	1.04	68.	228.
44	20.32	0.25	51.	60.	104	19.07	0.88	216.	117.	164	18.66	0.16	297.	170.	224	20.03	0.44	171.	230.
45	19.45	0.57	58.	60.	105	19.08	1.02	262.	119.	165	20.42	0.87	247.	171.	225	19.88	0.14	53.	230.
46	18.81	1.08	10.	60.	106	19.14	0.88	74.	120.	166	18.65	0.21	106.	171.	226	19.17	1.09	289.	231.
47	19.23	0.96	24.	61.	107	19.44	0.10	46.	121.	167	19.53	1.04	178.	174.	227	20.20	0.38	169.	233.
48	19.33	0.98	270.	62	108	18.68	0.17	127.	121.	168	19.80	1.05	312.	177.	228	19.31	0.87	65.	234.
49	20.68	0.63	259.	62.	109	20.23	0.37	102.	123.	169	19.25	0.17	80.	180.	229	17.77	0.02	161.	235.
50	19.93	0.17	187.	64.	110	19.50	0.99	113.	123.	170	19.72	0.95	256.	181.	230	19.75	0.24	27.	236.
51	20.12	0.17	29.	69.	111	20.27	0.99	78.	124.	171	20.45	0.23	313.	181.	231	17.64	0.07	234.	236.
52	19.67	1.06	184.	70.	112	19.40	1.02	118.	126.	172	19.10	0.99	157.	182.	232	19.87	0.20	152.	237.
53	19.63	1.00	189.	70.	113	18.35	1.09	125.	126.	173	18.58	0.14	143.	183.	233	20.96	0.19	169.	237.
54	21.28	0.25	202.	72.	114	19.32	1.01	30.	127.	174	18.79	1.00	177.	184.	234	19.63	0.33	138.	237.
55	20.63	0.29	91.	72.	115	18.25	1.14	99.	127.	175	20.20	0.35	107.	185.	235	18.95	0.91	53.	238.
56	19.01	1.18	241.	73.	116	19.43	1.02	157.	129.	176	20.46	0.25	211.	186.	236	19.92	0.26	49.	238.
57	19.50	0.11	157.	74.	117	20.03	0.04	4.	129.	177	18.01	0.12	123.	187.	237	18.74	1.10	279.	238.
58	19.92	0.89	41.	76.	118	19.07	0.55	195.	132.	178	19.89	1.10	307.	187.	238	20.48	0.42	89.	238.
59	20.75	0.30	191.	77.	119	19.49	0.17	42.	135.	179	19.76	1.09	182.	187.	239	19.99	0.25	95.	240.
60	18.39	0.06	104.	79.	120	20.43	0.28	26.	135.	180	20.45	0.33	163.	188.	240	19.21	0.88	143.	240.

Table 11 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	19.99	1.09	167.	240.	301	19.77	1.07	92.	267.	361	20.91	0.25	119.	287.	421	19.59	0.42	37	305.
242	19.53	1.03	38.	240.	302	18.93	0.54	150.	267.	362	19.54	1.14	15.	287.	422	19.23	0.22	90.	306.
243	19.68	0.27	153.	241.	303	20.48	0.35	162.	268.	363	19.59	0.58	54.	287.	423	19.55	0.44	46.	306.
244	19.47	0.99	129.	241.	304	19.67	0.27	17.	268.	364	20.46	0.34	125.	288.	424	18.98	0.57	85.	307.
245	18.92	0.89	230.	241.	305	20.13	0.80	141.	268.	365	20.09	0.03	75.	288.	425	21.42	0.34	57.	307.
246	20.15	0.38	100.	242.	306	19.86	0.82	141.	269.	366	20.24	1.42	27.	288.	426	19.00	0.22	227.	308.
247	19.20	0.20	7.	242.	307	19.75	0.10	282.	269.	367	19.73	0.26	2.	288.	427	19.60	0.78	68.	308.
248	19.22	1.03	52.	242.	308	18.93	0.83	131.	270.	368	19.98	-0.21	75.	289.	428	19.82	0.03	28.	308.
249	19.50	0.11	172.	243.	309	18.75	0.67	186.	270.	369	18.85	0.68	169.	289.	429	20.21	0.37	287.	308.
250	20.48	0.33	186.	244.	310	20.25	1.18	60.	270.	370	18.79	0.72	65.	289.	430	18.03	1.11	106.	308.
251	20.51	0.28	131.	244.	311	19.63	1.08	116.	271.	371	20.16	0.28	160.	289.	431	19.03	0.69	123.	309.
252	20.43	0.33	244.	246.	312	19.95	1.45	73.	272.	372	20.30	1.23	268.	290.	432	20.73	0.14	176.	309.
253	19.31	0.31	29.	246.	313	18.55	1.08	130.	272.	373	20.17	1.17	268.	290.	433	17.40	2.70	136.	310.
254	20.14	0.33	20.	247.	314	19.37	0.82	103.	272.	374	19.47	0.32	146.	291.	434	22.03	0.35	51.	310.
255	19.67	0.37	112.	247.	315	19.54	0.70	173.	272.	375	19.29	0.44	194.	291.	435	21.06	0.39	57.	310.
256	20.61	0.26	13.	248.	316	19.04	0.72	97.	273.	376	20.69	0.24	6.	291.	436	18.19	0.56	114.	311.
257	19.71	0.00	233.	248.	317	18.50	0.35	21.	273.	377	19.96	1.00	134.	291.	437	19.11	1.16	44.	311.
258	19.30	0.27	124.	248.	318	19.13	0.94	180.	273.	378	19.47	0.32	158.	292.	438	20.65	0.34	10.	311.
259	20.04	0.47	121.	248.	319	19.37	1.13	144.	273.	379	18.69	0.59	111.	293.	439	19.40	0.47	71.	311.
260	19.51	0.36	5.	249.	320	19.86	1.08	92.	274.	380	19.50	0.21	149.	293.	440	19.27	0.38	103.	311.
261	19.87	0.24	148.	249.	321	19.51	0.83	40.	274.	381	19.47	1.05	35.	293.	441	16.38	1.61	97.	312.
262	20.09	0.27	164.	249.	322	19.72	0.88	154.	274.	382	18.63	0.75	117.	293.	442	17.71	0.85	103.	312.
263	19.84	0.14	72.	251.	323	19.39	1.09	80.	274.	383	19.81	0.34	38.	294.	443	16.47	0.56	32.	312.
264	20.96	0.31	78.	251.	324	21.48	-0.24	141.	275.	384	20.59	0.18	220.	294.	444	19.39	0.30	172.	312.
265	20.61	0.47	17.	252.	325	19.19	0.63	34.	275.	385	18.44	0.43	122.	294.	445	19.25	1.05	262.	313.
266	18.34	1.10	142.	252.	326	17.01	0.03	288.	276.	386	18.07	0.74	67.	294.	446	18.88	0.84	140.	313.
267	19.72	0.20	205.	253.	327	21.27	0.15	111.	276.	387	19.33	0.83	141.	294.	447	18.83	0.53	136.	313.
268	19.55	0.33	150.	254.	328	20.17	0.38	101.	276.	388	18.68	0.32	72.	295.	448	19.70	0.24	188.	314.
269	20.82	0.49	203.	254.	329	19.56	1.32	64.	277.	389	19.33	0.38	165.	295.	449	20.28	0.98	205.	314.
270	19.81	1.00	52.	254.	330	20.55	0.14	140.	277.	390	19.03	0.79	114.	295.	450	20.74	0.82	243.	314.
271	19.51	0.18	147.	255.	331	18.74	1.20	313.	277.	391	19.21	0.92	176.	295.	451	19.04	0.34	62.	315.
272	18.69	0.06	183.	256.	332	19.28	0.91	50.	277.	392	20.17	0.10	284.	296.	452	18.74	0.94	203.	315.
273	19.41	0.31	81.	256.	333	19.79	0.41	140.	278.	393	19.54	0.06	127.	296.	453	16.89	1.14	93.	315.
274	20.58	0.31	124.	256.	334	18.57	1.00	92.	278.	394	19.20	1.07	22.	297.	454	19.24	0.35	67.	315.
275	19.97	0.23	31.	258.	335	20.36	0.25	122.	278.	395	18.68	0.33	101.	297.	455	19.18	0.54	126.	316.
276	20.80	0.20	130.	258.	336	19.37	0.90	3.	278.	396	19.86	0.04	138.	297.	456	19.46	0.97	74.	316.
277	20.50	0.46	99.	258.	337	20.62	0.39	130.	279.	397	19.52	0.18	44.	297.	457	19.24	0.28	168.	316.
278	21.06	0.39	138.	258.	338	20.14	0.32	160.	279.	398	19.18	0.76	84.	297.	458	19.54	-0.02	36.	316.
279	20.75	0.02	125.	259.	339	19.93	0.18	106.	280.	399	20.12	0.13	249.	297.	459	19.32	1.00	240.	316.
280	19.31	0.92	91.	259.	340	20.58	0.33	20.	280.	400	18.83	0.34	165.	297.	460	19.91	0.17	253.	316.
281	20.71	0.26	141.	259.	341	20.38	0.07	110.	280.	401	20.19	0.46	142.	298.	461	18.40	0.94	58.	316.
282	21.02	0.49	44.	259.	342	21.01	-0.22	153.	280.	402	19.16	0.23	92.	298.	462	17.28	0.72	100.	316.
283	19.30	0.89	121.	260.	343	19.94	0.36	29.	280.	403	19.85	0.51	27.	299.	463	19.91	0.21	35.	317.
284	20.25	0.34	220.	260.	344	20.88	0.26	75.	281.	404	19.30	0.61	60.	299.	464	18.96	0.41	22.	317.
285	19.90	0.34	116.	261.	345	21.16	0.43	129.	282.	405	19.01	0.85	35.	299.	465	19.82	0.27	156.	317.
286	20.06	0.43	50.	261.	346	19.86	0.25	133.	282.	406	19.30	0.30	67.	300.	466	20.62	0.25	208.	317.
287	20.26	0.25	102.	261.	347	20.34	0.28	117.	283.	407	19.61	0.20	126.	300.	467	18.37	0.46	110.	318.
288	19.19	0.87	112.	262.	348	16.06	-0.03	49.	283.	408	19.34	1.20	52.	301.	468	18.28	0.47	85.	318.
289	18.97	0.75	41.	262.	349	20.23	0.18	42.	283.	409	19.28	1.01	45.	301.	469	20.49	0.83	49.	318.
290	19.18	0.45	76.	262.	350	20.86	0.06	155.	283.	410	20.36	0.23	182.	301.	470	19.87	0.54	130.	319.
291	19.11	0.14	153.	262.	351	19.77	0.87	75.	283.	411	20.75	0.38	178.	302.	471	18.95	0.70	281.	319.
292	19.40	0.14	14.	263.	352	19.78	1.07	126.	284.	412	19.42	0.67	140.	302.	472	19.03	0.15	285.	320.
293	20.02	0.09	172.	264.	353	19.34	0.28	111.	284.	413	20.18	0.15	305.	303.	473	19.41	0.90	31.	320.
294	20.29	0.18	85.	265.	354	20.85	1.07	86.	284.	414	17.99	0.56	76.	303.	474	19.20	0.65	63.	320.
295	19.49	0.29	118.	265.	355	19.41	0.24	60.	284.	415	18.89	0.93	148.	303.	475	18.77	0.28	75.	320.
296	19.46	0.67	66.	265.	356	20.18	0.22	136.	284.	416	20.15	1.11	252.	303.	476	18.47	0.61	83.	321.
297	20.58	0.45	125.	265.	357	19.90	1.06	290.	285.	417	19.79	0.46	87.	303.	477	21.36	0.06	145.	321.
298	19.59	0.33	36.	265.	358	18.81	1.10	63.	285.	418	17.40	0.91	99.	304.	478	20.27	0.77	48.	322.
299	19.63	1.18	96.	266.	359	19.47	1.46	99.	286.	419	19.83	0.28	141.	304.	479	18.86	0.41	113.	322.
300	20.81	0.45	45.	267.	360	20.09	0.18	161.	286.	420	20.01	0.62	116.	305.	480	19.55	0.62	163.	322.

Table 11 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.04	0.30	36.	323.	541	19.39	0.50	91.	341.	601	21.44	-0.07	107.	359.	661	19.98	0.29	11.	390.
482	17.99	0.42	88.	323.	542	20.12	0.40	49.	341.	602	19.63	0.61	104.	360.	662	19.90	0.31	133.	390.
483	19.36	0.89	124.	323.	543	19.92	0.34	37.	341.	603	19.08	0.67	69.	360.	663	19.65	0.43	103.	391.
484	20.34	0.06	295.	324.	544	20.25	0.37	25.	341.	604	19.08	0.85	130.	361.	664	19.88	0.14	208.	393.
485	19.23	0.82	33.	324.	545	20.13	0.32	183.	341.	605	19.62	0.97	25.	361.	665	20.52	0.29	119.	393.
486	19.31	0.43	161.	324.	546	18.73	1.02	175.	342.	606	19.13	0.29	86.	362.	666	19.31	1.07	99.	393.
487	16.93	1.64	167.	324.	547	18.79	0.86	313.	343.	607	20.70	0.22	153.	362.	667	20.17	0.29	15.	393.
488	18.23	1.43	99.	325.	548	20.62	0.20	29.	343.	608	19.89	0.36	167.	363.	668	20.67	0.12	104.	394.
489	18.36	1.13	62.	325.	549	18.95	0.21	87.	344.	609	19.45	1.06	203.	363.	669	20.47	0.38	76.	394.
490	20.92	-0.26	120.	326.	550	19.82	0.04	159.	344.	610	16.97	1.68	61.	364.	670	19.96	1.47	54.	394.
491	18.85	0.54	125.	327.	551	18.21	0.64	57.	345.	611	17.64	1.44	92.	364.	671	20.70	0.31	157.	395.
492	19.01	0.51	112.	327.	552	16.99	1.25	151.	345.	612	20.81	0.42	25.	365.	672	19.37	0.23	4.	395.
493	19.43	0.27	150.	327.	553	18.10	1.20	126.	345.	613	17.36	1.34	130.	365.	673	19.13	0.27	9.	396.
494	18.42	0.94	138.	327.	554	20.51	0.28	13.	345.	614	19.76	0.29	156.	365.	674	19.86	0.48	93.	396.
495	18.33	0.76	93.	328.	555	20.26	0.20	176.	346.	615	18.31	0.93	257.	366.	675	20.49	-0.06	160.	396.
496	20.00	0.32	155.	328.	556	19.37	0.20	167.	346.	616	18.90	0.59	67.	366.	676	20.46	0.58	298.	396.
497	19.57	0.81	54.	328.	557	20.74	0.20	37.	346.	617	20.16	0.46	147.	366.	677	20.45	0.32	207.	397.
498	19.37	0.24	177.	329.	558	19.31	0.93	47.	346.	618	19.59	0.72	74.	367.	678	21.08	0.62	171.	397.
499	19.50	0.78	181.	329.	559	20.24	0.34	34.	347.	619	19.74	0.42	88.	368.	679	17.31	1.20	255.	398.
500	20.11	0.63	62.	329.	560	19.69	0.35	131.	347.	620	19.15	1.02	66.	369.	680	19.65	0.36	113.	399.
501	20.04	0.37	45.	329.	561	18.56	0.77	113.	347.	621	20.39	0.37	123.	369.	681	18.72	0.13	228.	400.
502	19.27	-0.11	76.	330.	562	20.06	0.95	9.	348.	622	20.54	0.25	175.	369.	682	20.94	0.43	246.	400.
503	18.65	0.80	124.	330.	563	19.49	0.83	16.	348.	623	19.11	0.78	46.	370.	683	19.03	0.55	85.	401.
504	19.70	0.29	132.	331.	564	18.90	0.35	92.	348.	624	19.69	0.83	73.	371.	684	20.04	0.47	62.	401.
505	19.84	1.30	28.	331.	565	20.78	0.40	50.	348.	625	18.93	0.11	247.	371.	685	20.57	0.97	75.	402.
506	18.74	1.14	59.	331.	566	18.46	0.81	85.	349.	626	20.28	0.31	252.	371.	686	18.98	0.34	162.	402.
507	18.70	1.24	83.	332.	567	19.58	0.38	73.	349.	627	19.00	0.93	154.	372.	687	19.57	0.21	6.	403.
508	19.77	0.35	52.	332.	568	19.83	0.28	227.	349.	628	20.81	0.35	85.	372.	688	20.22	0.33	71.	403.
509	20.94	0.43	153.	332.	569	19.94	0.11	171.	349.	629	19.19	0.86	96.	372.	689	20.81	0.37	111.	403.
510	17.77	1.09	70.	333.	570	20.29	0.28	141.	349.	630	19.05	0.85	118.	372.	690	20.43	0.20	41.	404.
511	18.74	0.33	107.	333.	571	19.77	0.92	82.	349.	631	20.14	0.32	25.	372.	691	19.53	0.96	262.	404.
512	20.16	1.02	137.	334.	572	19.83	0.30	104.	350.	632	19.48	1.16	169.	373.	692	19.39	0.34	57.	404.
513	18.36	1.10	273.	334.	573	19.15	0.83	121.	351.	633	20.36	0.43	220.	374.	693	20.17	0.19	159.	405.
514	18.48	0.49	162.	334.	574	20.57	0.26	24.	351.	634	19.15	0.50	91.	374.	694	20.16	1.12	10.	406.
515	20.51	0.22	178.	334.	575	19.47	0.86	50.	351.	635	20.87	0.20	157.	374.	695	19.56	0.40	86.	406.
516	18.99	0.48	189.	335.	576	20.66	0.31	20.	351.	636	18.34	1.12	109.	374.	696	19.21	0.91	170.	408.
517	18.90	0.75	99.	335.	577	16.77	1.39	113.	352.	637	20.19	0.27	38.	375.	697	19.05	0.92	183.	409.
518	18.75	1.15	156.	335.	578	19.82	0.23	245.	353.	638	20.06	0.19	253.	375.	698	20.47	0.39	173.	409.
519	19.74	0.33	9.	335.	579	19.53	0.97	110.	353.	639	18.81	0.99	193.	375.	699	20.56	0.20	246.	410.
520	19.21	0.22	223.	335.	580	19.25	0.31	133.	353.	640	19.03	0.81	63.	376.	700	19.76	1.03	128.	410.
521	18.37	1.05	120.	335.	581	20.14	0.42	49.	353.	641	19.74	0.39	102.	377.	701	17.56	0.17	38.	412.
522	18.55	0.84	153.	336.	582	20.13	0.46	44.	354.	642	19.89	0.88	4.	377.	702	19.84	1.39	70.	413.
523	19.96	0.41	38.	336.	583	16.94	1.04	92.	354.	643	20.20	0.36	136.	380.	703	20.01	0.26	152.	414.
524	20.26	1.05	126.	336.	584	19.36	0.47	66.	355.	644	19.02	0.19	114.	380.	704	18.55	1.36	25.	415.
525	19.69	0.34	45.	337.	585	17.41	1.23	262.	355.	645	19.67	0.17	30.	381.	705	19.74	0.32	256.	415.
526	19.75	0.83	95.	337.	586	20.28	0.34	191.	355.	646	19.61	0.06	290.	382.	706	20.04	0.47	278.	415.
527	19.73	0.99	257.	337.	587	18.98	0.31	142.	356.	647	18.86	0.44	62.	382.	707	19.72	0.79	35.	417.
528	19.84	0.26	116.	337.	588	20.17	0.39	18.	356.	648	19.10	0.91	96.	383.	708	19.79	1.21	47.	418.
529	19.63	1.05	70.	338.	589	18.54	0.77	83.	356.	649	19.20	1.07	162.	384.	709	19.35	1.12	298.	419.
530	18.96	0.59	113.	338.	590	19.96	1.00	78.	356.	650	19.25	0.30	46.	384.	710	20.03	0.46	56.	419.
531	17.81	0.12	173.	338.	591	20.36	0.38	154.	356.	651	20.65	0.40	78.	384.	711	20.12	0.27	125.	419.
532	19.56	0.73	223.	339.	592	20.46	0.42	60.	356.	652	20.76	0.44	129.	385.	712	19.11	1.02	138.	420.
533	19.33	0.19	161.	339.	593	18.96	0.35	223.	357.	653	21.04	0.39	147.	385.	713	19.70	0.19	177.	421.
534	18.29	0.32	87.	339.	594	20.14	0.58	153.	358.	654	20.63	0.50	74.	386.	714	20.45	0.17	90.	422.
535	20.78	0.12	17.	339.	595	19.98	0.69	103.	358.	655	20.02	0.33	150.	387.	715	19.46	1.14	14.	422.
536	20.35	0.27	21.	339.	596	18.76	0.51	72.	358.	656	19.43	0.28	68.	388.	716	19.99	0.18	275.	422.
537	20.13	0.30	131.	340.	597	19.73	0.16	217.	359.	657	19.67	1.02	128.	389.	717	19.85	0.41	164.	424.
538	19.20	0.41	144.	340.	598	18.70	0.90	254.	359.	658	19.48	0.97	124.	390.	718	20.43	0.32	27.	424.
539	19.61	0.36	119.	340.	599	21.18	0.47	30.	359.	659	19.67	0.89	33.	390.	719	20.57	0.18	107.	424.
540	18.91	0.67	108.	340.	600	19.46	0.23	209.	359.	660	19.66	1.08	276.	390.	720	20.35	0.49	87.	424.

Table 11 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	19.51	0.86	190.	425.	739	17.84	1.50	171.	441.	757	19.99	0.11	53.	464.	775	19.60	0.96	170.	480.
722	20.55	0.65	149.	426.	740	20.91	1.08	27.	441.	758	18.90	0.39	53.	468.	776	18.72	0.99	116.	480.
723	20.11	0.40	120.	427.	741	20.51	0.32	141.	441.	759	19.77	0.32	138.	468.	777	18.22	0.07	101.	481.
724	20.42	0.13	64.	427.	742	19.12	1.17	134.	441.	760	17.84	0.43	52.	469.	778	17.96	0.03	295.	482.
725	20.49	0.71	196.	428.	743	18.10	0.06	84.	445.	761	18.87	0.28	84.	470.	779	20.59	0.94	5.	484.
726	19.85	0.30	103.	430.	744	20.62	0.51	64.	447.	762	19.92	0.06	278.	471.	780	18.96	0.16	220.	488.
727	19.43	1.22	147.	430.	745	19.28	0.15	180.	449.	763	18.34	0.15	80.	472.	781	16.71	-0.03	286.	489.
728	19.29	0.70	39.	432.	746	19.90	1.22	21.	450.	764	20.19	0.24	150.	473.	782	19.94	1.13	175.	496.
729	18.37	0.18	139.	433.	747	19.47	0.47	69.	451.	765	19.35	1.22	310.	477.	783	20.22	1.36	180.	497.
730	19.48	0.30	286.	436.	748	20.17	0.47	206.	452.	766	16.91	1.50	242.	477.	784	19.18	0.77	73.	501.
731	20.07	0.41	167.	436.	749	20.18	0.39	77.	452.	767	18.44	1.46	20.	478.	785	20.31	0.31	32.	501.
732	18.01	0.07	224.	437.	750	19.38	0.15	42.	453.	768	19.99	0.98	173.	478.	786	18.24	0.07	97.	502.
733	19.79	0.92	36.	438.	751	20.37	0.41	81.	460.	769	20.21	0.85	4.	478.	787	19.02	0.14	272.	503.
734	21.11	0.77	45.	438.	752	20.02	0.26	160.	460.	770	19.68	0.41	119.	478.	788	20.63	0.54	39.	503.
735	18.48	1.22	283.	439.	753	20.12	1.05	275.	462.	771	19.34	0.34	157.	478.	789	18.48	0.10	236.	507.
736	17.68	1.05	34.	440.	754	19.75	0.78	49.	462.	772	20.22	0.85	215.	479.					
737	20.31	0.70	175.	440.	755	19.21	1.02	8.	463.	773	19.78	0.31	90.	479.					
738	21.56	0.49	42.	440.	756	19.67	0.99	159.	464.	774	19.47	0.96	79.	480.					

Table 12a : Magnitudes, Colors and Positions of Stars in NGC 2162.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	21.18	0.40	115.	5.	61	20.46	0.26	230.	117.	121	19.16	0.57	30.	136.	181	22.05	0.34	289.	214.
2	21.23	0.63	24.	8.	62	20.92	0.25	70.	119.	122	21.27	0.26	14.	186.	182	20.30	0.24	123.	215.
3	20.77	0.32	168.	19.	63	22.62	0.63	53.	120.	123	20.72	0.27	217.	186.	183	21.69	0.42	73.	215.
4	22.07	0.43	40.	21.	64	21.66	0.54	207.	124.	124	22.04	0.44	258.	187.	184	20.21	0.91	117.	217.
5	21.24	0.35	201.	22.	65	20.58	0.28	311.	126.	125	21.91	0.48	277.	189.	185	21.23	0.26	232.	217.
6	22.14	0.57	22.	24.	66	15.41	0.63	176.	127.	126	20.07	0.25	316.	190.	186	19.52	0.15	271.	217.
7	22.07	0.49	200.	24.	67	21.89	0.39	15.	130.	127	21.17	0.40	222.	190.	187	19.17	0.94	107.	217.
8	22.60	0.31	20.	27.	68	21.57	0.75	16.	132.	128	17.38	1.08	82.	190.	188	20.87	0.32	68.	219.
9	21.25	0.26	134.	28.	69	20.53	0.30	114.	133.	129	21.89	0.23	89.	192.	189	20.84	0.45	261.	219.
10	20.84	0.35	301.	29.	70	17.24	1.05	156.	135.	130	20.80	0.28	222.	193.	190	19.52	0.32	85.	219.
11	21.13	0.90	16.	33.	71	19.06	0.87	28.	140.	131	20.70	0.21	28.	193.	191	19.64	0.89	221.	220.
12	20.22	0.27	13.	37.	72	21.61	0.45	172.	141.	132	21.63	0.36	25.	193.	192	19.89	0.32	190.	220.
13	21.12	0.38	75.	44.	73	18.20	1.11	6.	141.	133	20.34	0.21	96.	194.	193	19.87	0.29	175.	221.
14	21.21	0.34	118.	47.	74	20.71	0.14	67.	143.	134	21.68	0.43	288.	194.	194	20.21	0.31	161.	221.
15	22.17	0.46	166.	47.	75	19.98	0.22	77.	143.	135	21.23	0.34	13.	196.	195	19.18	0.75	78.	221.
16	21.02	0.49	207.	48.	76	18.96	0.81	96.	146.	136	20.68	0.66	133.	197.	196	20.73	0.20	109.	222.
17	21.58	0.35	165.	48.	77	19.59	0.23	128.	150.	137	20.58	0.25	75.	198.	197	20.79	0.27	31.	222.
18	19.99	0.33	222.	51.	78	21.48	0.36	92.	151.	138	19.88	0.30	90.	199.	198	19.35	1.20	268.	223.
19	22.18	0.21	225.	55.	79	21.72	0.41	206.	152.	139	19.72	0.48	132.	199.	199	19.63	0.32	5.	225.
20	22.13	0.47	312.	56.	80	19.15	0.00	212.	153.	140	20.04	0.46	278.	200.	200	19.68	0.24	152.	226.
21	22.09	0.46	301.	59.	81	20.70	0.29	130.	154.	141	21.37	0.39	83.	200.	201	19.91	0.25	71.	226.
22	19.68	0.71	295.	60.	82	21.64	0.31	169.	155.	142	20.17	0.17	123.	200.	202	18.88	0.97	13.	226.
23	21.64	0.40	180.	63.	83	21.87	0.50	156.	156.	143	21.00	0.24	45.	201.	203	21.23	0.38	210.	226.
24	20.32	0.28	319.	64.	84	20.62	0.17	147.	157.	144	20.24	0.32	63.	201.	204	20.00	0.31	166.	227.
25	19.17	0.95	172.	64.	85	21.71	0.18	114.	158.	145	21.59	0.47	86.	201.	205	19.33	0.83	63.	227.
26	21.65	0.44	94.	70.	86	20.44	0.20	30.	160.	146	20.07	0.27	113.	202.	206	21.48	0.43	283.	228.
27	21.42	0.59	226.	73.	87	21.92	0.38	176.	162.	147	19.90	0.24	196.	202.	207	21.16	0.33	109.	228.
28	21.89	0.65	317.	73.	88	20.62	0.23	132.	162.	148	20.91	0.21	239.	202.	208	22.34	0.49	212.	228.
29	19.25	0.83	113.	74.	89	19.06	0.95	206.	162.	149	22.33	0.22	97.	203.	209	21.17	0.30	100.	228.
30	21.16	0.22	200.	77.	90	21.49	0.50	124.	163.	150	20.94	0.34	79.	203.	210	20.41	0.35	33.	229.
31	19.67	0.40	155.	80.	91	21.46	0.27	285.	165.	151	21.65	0.51	58.	203.	211	20.05	0.20	76.	230.
32	22.35	0.68	267.	88.	92	20.62	0.81	22.	166.	152	19.75	0.30	106.	203.	212	20.69	0.17	92.	230.
33	20.92	0.17	210.	88.	93	21.96	0.64	133.	166.	153	21.03	0.16	144.	204.	213	21.41	0.17	99.	230.
34	21.84	0.41	199.	89.	94	17.62	1.22	10.	168.	154	19.98	1.23	182.	205.	214	18.35	1.14	256.	231.
35	21.50	0.46	37.	91.	95	19.74	0.29	39.	169.	155	21.47	0.33	276.	206.	215	22.20	0.39	86.	232.
36	19.31	1.00	251.	92.	96	19.23	0.75	270.	169.	156	19.21	0.80	104.	207.	216	19.66	0.26	193.	232.
37	21.32	0.51	129.	93.	97	21.97	0.56	128.	169.	157	18.68	0.90	120.	207.	217	22.38	0.47	212.	232.
38	22.03	0.46	203.	93.	98	20.06	0.30	143.	170.	158	19.97	0.22	61.	208.	218	19.23	0.24	164.	232.
39	21.88	0.43	270.	93.	99	21.13	0.35	294.	170.	159	19.79	0.29	108.	208.	219	20.72	0.19	143.	233.
40	20.69	0.14	247.	93.	100	22.18	0.71	295.	172.	160	20.88	0.10	115.	208.	220	21.65	0.30	112.	233.
41	22.57	0.56	234.	93.	101	21.17	0.42	163.	173.	161	21.68	0.64	279.	208.	221	21.60	0.45	88.	233.
42	20.00	0.37	11.	94.	102	22.24	0.41	256.	173.	162	21.78	0.56	196.	209.	222	21.95	0.70	10.	233.
43	19.86	0.23	172.	95.	103	21.30	0.19	52.	174.	163	19.65	0.35	85.	209.	223	19.24	0.90	65.	234.
44	22.61	0.57	265.	95.	104	22.33	0.42	234.	174.	164	21.20	0.63	244.	209.	224	19.50	0.87	295.	234.
45	19.55	0.25	178.	95.	105	20.32	0.83	271.	175.	165	18.75	1.07	29.	209.	225	20.91	0.31	203.	235.
46	21.61	0.49	37.	96.	106	18.97	0.85	148.	178.	166	20.45	0.52	89.	210.	226	20.36	0.07	255.	235.
47	19.35	0.29	105.	97.	107	22.18	1.64	79.	178.	167	18.20	1.01	81.	210.	227	21.85	0.38	79.	235.
48	21.87	0.40	211.	97.	108	21.02	0.42	84.	178.	168	20.92	0.29	39.	210.	228	22.28	0.61	220.	235.
49	21.91	0.34	244.	101.	109	21.15	0.32	94.	178.	169	19.19	0.89	47.	210.	229	22.17	0.07	9.	236.
50	19.91	0.83	174.	102.	110	21.59	0.20	260.	178.	170	21.92	0.32	189.	210.	230	22.03	0.33	50.	236.
51	21.86	0.46	36.	103.	111	20.76	0.28	245.	178.	171	22.11	0.60	141.	211.	231	19.08	0.95	43.	238.
52	18.57	1.07	118.	106.	112	21.12	0.31	226.	178.	172	21.25	0.43	150.	211.	232	21.01	0.37	218.	238.
53	21.74	0.40	208.	106.	113	17.37	1.36	72.	179.	173	19.23	0.83	53.	211.	233	21.37	0.24	159.	238.
54	22.11	0.77	103.	109.	114	21.73	0.75	207.	181.	174	19.76	0.47	242.	211.	234	20.11	0.22	116.	238.
55	21.42	0.33	247.	109.	115	19.18	0.85	238.	183.	175	20.77	0.09	117.	212.	235	20.95	0.39	80.	239.
56	21.40	0.33	202.	110.	116	20.76	0.40	106.	183.	176	19.80	0.62	84.	212.	236	21.98	0.55	196.	239.
57	22.13	0.49	54.	111.	117	20.75	0.25	169.	183.	177	21.80	0.29	174.	212.	237	21.97	0.35	58.	240.
58	22.53	0.31	103.	111.	118	21.56	0.34	101.	184.	178	20.61	0.11	57.	212.	238	19.63	0.88	71.	240.
59	20.85	0.31	37.	113.	119	21.61	0.28	67.	184.	179	21.78	0.53	65.	213.	239	18.27	0.87	111.	240.
60	20.42	1.66	51.	116.	120	21.17	0.51	222.	185.	180	19.87	0.10	97.	213.	240	18.25	0.90	151.	240.

Table 12a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	21.73	0.24	126.	241.	301	19.87	0.19	179.	269.	361	19.94	0.24	155.	305.	421	21.91	0.57	164.	346.
242	21.50	0.29	36.	241.	302	22.47	0.27	217.	269.	362	21.11	0.17	148.	305.	422	18.89	0.93	158.	347.
243	21.29	0.39	134.	241.	303	21.60	0.74	10.	269.	363	21.95	0.80	269.	306.	423	20.00	0.42	135.	347.
244	19.59	0.29	89.	241.	304	19.76	0.39	313.	270.	364	19.31	0.93	22.	307.	424	21.48	0.37	208.	347.
245	21.91	0.84	96.	241.	305	20.09	0.26	30.	270.	365	20.07	0.11	178.	307.	425	21.53	0.15	13.	347.
246	22.59	0.69	213.	242.	306	21.13	0.60	275.	271.	366	22.86	0.10	149.	308.	426	19.97	0.34	30.	348.
247	18.93	0.80	105.	242.	307	21.55	0.43	151.	271.	367	20.43	0.36	166.	309.	427	20.92	0.29	212.	349.
248	19.18	0.87	50.	242.	308	20.41	0.20	124.	271.	368	20.52	0.01	23.	309.	428	20.49	0.19	140.	349.
249	17.97	1.05	65.	242.	309	20.20	0.22	13.	271.	369	17.78	1.17	7.	311.	429	21.73	0.36	207.	349.
250	21.89	0.72	198.	243.	310	21.04	0.32	26.	271.	370	19.80	0.38	15.	311.	430	20.98	0.16	21.	350.
251	20.73	0.16	109.	244.	311	21.80	0.71	261.	272.	371	20.17	0.28	182.	311.	431	20.50	0.30	33.	351.
252	22.11	-0.19	47.	245.	312	19.00	0.89	40.	272.	372	19.48	0.45	180.	312.	432	19.17	0.88	144.	351.
253	21.57	0.86	294.	245.	313	21.05	0.20	207.	272.	373	21.05	0.22	172.	312.	433	21.54	0.12	136.	351.
254	19.54	0.87	156.	246.	314	20.59	0.36	129.	273.	374	22.19	0.37	210.	312.	434	19.68	0.28	158.	352.
255	20.74	0.35	125.	246.	315	21.33	0.37	157.	273.	375	20.91	0.25	158.	314.	435	21.71	0.26	191.	352.
256	20.59	0.85	252.	246.	316	19.11	0.92	25.	273.	376	21.70	0.80	269.	315.	436	19.78	0.35	43.	352.
257	22.20	0.14	122.	247.	317	19.60	0.26	44.	273.	377	22.30	0.73	18.	316.	437	20.17	0.35	41.	353.
258	20.20	0.17	63.	247.	318	20.70	0.17	181.	274.	378	21.38	0.40	235.	318.	438	20.30	0.29	12.	355.
259	20.83	0.17	145.	247.	319	20.60	0.25	231.	275.	379	22.09	0.51	260.	318.	439	21.96	0.19	5.	355.
260	21.48	0.22	202.	249.	320	20.81	0.27	164.	275.	380	19.23	0.97	164.	320.	440	21.22	0.59	38.	355.
261	21.62	0.11	36.	249.	321	21.45	0.40	315.	276.	381	20.01	0.18	26.	320.	441	21.69	0.73	24.	356.
262	20.61	0.28	111.	249.	322	19.52	0.25	171.	277.	382	18.45	1.09	213.	321.	442	19.80	0.34	10.	356.
263	22.01	0.15	51.	249.	323	20.21	0.34	21.	280.	383	19.11	0.81	29.	322.	443	20.36	0.40	30.	357.
264	19.44	0.37	42.	249.	324	21.35	0.39	209.	281.	384	20.03	0.35	22.	323.	444	21.41	0.38	41.	357.
265	17.85	1.23	31.	251.	325	20.62	0.46	30.	281.	385	20.07	0.28	13.	324.	445	19.26	0.84	162.	357.
266	20.44	0.19	147.	251.	326	20.82	0.20	172.	281.	386	22.00	0.24	211.	326.	446	21.42	0.19	134.	358.
267	19.92	0.24	180.	252.	327	20.51	0.25	202.	282.	387	20.17	0.39	177.	326.	447	20.83	0.28	34.	359.
268	19.99	0.83	220.	254.	328	19.42	0.28	26.	282.	388	22.91	0.21	160.	326.	448	20.12	0.37	138.	359.
269	20.55	0.42	126.	255.	329	21.73	0.50	190.	282.	389	21.51	0.19	18.	328.	449	20.88	0.30	41.	360.
270	21.17	0.19	145.	256.	330	20.81	0.59	243.	283.	390	21.18	0.22	183.	329.	450	19.92	0.20	178.	360.
271	21.28	0.08	34.	256.	331	19.98	0.25	30.	284.	391	22.44	-0.22	163.	329.	451	22.16	0.51	155.	361.
272	19.97	0.28	15.	257.	332	19.52	0.95	181.	284.	392	19.83	0.47	168.	331.	452	20.78	0.24	258.	363.
273	19.68	0.41	6.	257.	333	20.57	0.33	198.	284.	393	21.93	0.32	161.	331.	453	21.30	0.36	43.	363.
274	22.54	0.30	233.	258	334	21.74	0.06	196.	286.	394	21.07	0.66	191.	331.	454	19.15	0.90	126	364.
275	21.30	0.41	136.	259.	335	19.78	0.19	242.	286.	395	21.34	0.40	274.	331.	455	18.58	0.88	198.	364.
276	20.68	0.28	176.	259.	336	19.36	0.94	17.	286.	396	18.98	0.05	36.	333.	456	20.44	0.37	34.	364.
277	18.30	1.12	30.	260.	337	22.07	0.57	262.	288.	397	19.76	0.52	189.	333.	457	20.98	0.23	162.	365.
278	21.72	0.48	293.	260.	338	20.79	0.20	182.	289.	398	20.07	0.05	167.	333.	458	20.94	0.38	191.	365.
279	20.46	0.33	7.	261.	339	20.85	0.22	163.	291.	399	20.29	0.43	18.	333.	459	21.40	0.32	62.	365.
280	21.02	-0.05	125.	261.	340	19.19	0.91	176.	291.	400	19.85	0.39	195.	334.	460	21.36	0.81	139.	367.
281	19.15	0.85	37.	261.	341	21.02	0.60	223.	293.	401	20.66	0.22	311.	336.	461	21.34	0.21	144.	367.
282	20.98	0.28	133.	261.	342	21.79	0.55	294.	294.	402	21.15	0.35	254.	336.	462	21.57	0.50	212.	367.
283	21.55	0.31	285.	261.	343	18.81	0.82	16.	295.	403	20.64	0.26	155.	336.	463	21.01	0.42	130.	368.
284	20.05	0.22	138.	261.	344	19.27	0.81	173.	297.	404	21.15	0.28	148.	337.	464	19.93	0.22	25.	368.
285	21.67	0.53	201.	262.	345	19.97	0.23	31.	298.	405	19.14	0.89	29.	338.	465	21.43	0.50	137.	369.
286	22.07	0.32	223.	262.	346	20.07	0.18	18.	298.	406	18.97	0.97	43.	338.	466	17.61	1.06	121.	369.
287	20.48	0.24	234.	263.	347	20.33	0.32	183.	298.	407	20.55	0.29	11.	338.	467	20.26	0.17	63.	369.
288	18.21	1.00	125.	263.	348	21.29	1.27	193.	299.	408	20.83	0.26	282.	339.	468	19.14	0.77	191.	369.
289	20.91	0.32	298.	263.	349	20.29	0.21	6.	299.	409	19.42	0.28	35.	339.	469	21.52	0.21	90.	369.
290	21.70	0.27	178.	263.	350	17.37	1.34	210.	300.	410	21.83	-0.03	7.	339.	470	20.25	0.16	147.	369.
291	21.31	0.38	13.	264.	351	21.25	0.34	225.	300.	411	21.66	0.37	273.	340.	471	21.16	0.19	172.	369.
292	20.40	0.17	23.	264.	352	20.02	0.24	192.	301.	412	18.94	1.53	41.	340.	472	21.05	0.75	228.	370.
293	21.69	0.40	149.	265.	353	20.12	0.27	288.	301.	413	19.00	0.81	33.	341.	473	20.89	0.34	291.	370.
294	19.55	0.42	43.	265.	354	19.31	0.86	159.	301.	414	21.24	0.24	308.	342.	474	22.12	0.05	131.	371.
295	21.79	0.39	213.	266.	355	20.02	0.37	152.	301.	415	19.55	0.73	38.	342.	475	17.90	1.21	67.	372.
296	21.67	0.42	29.	266.	356	20.08	0.31	176.	303.	416	21.99	0.28	7.	344.	476	18.44	1.09	181.	372.
297	20.41	0.26	19.	267.	357	21.27	0.34	165.	303.	417	18.97	0.82	46.	344.	477	20.00	0.19	228.	372.
298	20.25	0.32	189.	267.	358	22.14	0.42	293.	303.	418	20.11	0.28	185.	344.	478	21.67	0.53	60.	372.
299	21.36	0.44	10.	267.	359	20.83	0.31	31.	303.	419	21.10	0.32	151.	345.	479	21.71	0.26	312.	373.
300	19.13	0.84	127.	268.	360	21.32	0.14	190.	304.	420	22.26	0.40	24.	345.	480	21.96	0.46	14.	373.

Table 12a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	21.98	0.10	145.	373.	531	20.82	0.43	12.	391.	581	20.60	0.24	177.	421.	631	20.67	0.32	174.	463.
482	19.26	0.64	92.	373.	532	19.86	0.10	50.	391.	582	19.16	0.75	85.	423.	632	20.84	0.29	290.	463.
483	19.71	0.38	115.	374.	533	21.57	0.51	105.	391.	583	18.27	0.98	197.	423.	633	21.59	0.31	121.	464.
484	20.52	0.18	24.	374.	534	21.98	0.09	9.	392.	584	21.95	0.60	278.	424.	634	15.95	3.61	38.	464.
485	20.91	0.73	254.	374.	535	20.38	0.34	97.	392.	585	19.51	0.83	28.	424.	635	21.03	0.58	281.	464.
486	21.99	0.24	152.	375.	536	19.59	0.83	13.	392.	586	20.04	0.81	131.	425.	636	21.05	0.57	97.	465.
487	18.88	1.03	40.	375.	537	22.15	-0.11	149.	393.	587	21.67	0.61	30.	425.	637	18.98	0.91	168.	465.
488	20.20	0.18	36.	376.	538	21.65	0.31	61.	393.	588	21.70	0.53	122.	425.	638	18.76	0.75	257.	466.
489	19.88	0.36	78.	376.	539	20.25	0.35	220.	394.	589	21.36	0.58	20.	425.	639	21.31	0.37	182.	470.
490	19.79	0.34	15.	377.	540	20.58	0.26	190.	395.	590	20.67	0.33	9.	425.	640	17.99	1.18	79.	471.
491	20.02	0.26	71.	377.	541	19.96	0.43	39.	395.	591	21.44	0.43	264.	426.	641	19.58	0.18	157.	473.
492	19.60	0.87	193.	378.	542	20.26	0.28	61.	395.	592	20.78	0.30	54.	427.	642	22.07	0.51	10.	474.
493	19.47	0.85	40.	378.	543	21.02	0.82	149.	395.	593	21.50	0.27	22.	427.	643	21.42	0.57	311.	474.
494	19.05	0.89	117.	378.	544	22.47	0.84	126.	396.	594	19.00	0.96	7.	430.	644	22.52	0.68	16.	476.
495	20.39	0.24	104.	378.	545	21.63	0.31	72.	396.	595	22.03	0.63	276.	431.	645	21.98	0.38	20.	478.
496	20.32	0.34	123.	378.	546	21.73	0.30	37.	397.	596	20.28	0.61	6.	436.	646	22.10	0.59	82.	478.
497	19.59	0.29	138.	378.	547	19.61	0.32	78.	397.	597	20.76	0.44	84.	436.	647	22.03	0.59	80.	479.
498	21.27	0.31	207.	378.	548	21.83	0.41	155.	397.	598	20.51	0.29	241.	436.	648	19.68	0.31	165.	479.
499	21.71	0.26	164.	379.	549	21.33	0.31	48.	397.	599	19.30	0.86	5.	438.	649	21.16	0.36	55.	480.
500	21.19	0.34	9.	379.	550	21.11	0.40	105.	397.	600	20.99	0.33	246.	439.	650	21.76	0.66	240.	480.
501	20.63	0.33	110.	380.	551	20.54	0.31	126.	399.	601	21.62	0.59	176.	439.	651	20.31	0.28	251.	481.
502	20.81	0.23	180.	380.	552	20.82	0.49	41.	399.	602	22.06	0.52	190.	440.	652	21.43	0.31	189.	482.
503	22.12	0.68	175.	380.	553	21.59	0.43	231.	401.	603	21.01	0.36	155.	440.	653	20.72	0.24	60.	482.
504	19.55	0.26	262.	381.	554	19.10	0.94	78.	401.	604	20.89	0.34	175.	442.	654	22.10	0.31	172.	483.
505	21.85	0.21	56.	381.	555	21.97	1.08	260.	403.	605	22.42	0.66	18.	443.	655	20.03	0.24	113.	485.
506	21.24	0.31	170.	381.	556	20.63	0.34	132.	404.	606	22.70	0.61	15.	443.	656	21.94	0.52	18.	488.
507	21.09	0.19	256.	381.	557	22.10	0.44	87.	404.	607	20.53	0.86	189.	444.	657	21.43	0.29	103.	490.
508	20.18	0.21	61.	381.	558	19.07	0.98	61.	404.	608	21.77	0.04	68.	444.	658	16.25	1.62	146.	490.
509	20.70	0.16	94.	382.	559	20.58	0.31	159.	405.	609	21.90	0.36	77.	444.	659	19.84	0.41	138.	491.
510	19.14	0.95	45.	382.	560	21.52	0.37	75.	406.	610	19.57	0.91	71.	445.	660	21.95	1.79	227.	491.
511	20.09	0.29	105.	382.	561	22.82	1.03	259.	407.	611	21.83	0.35	42.	445.	661	21.57	0.51	303.	492.
512	19.65	0.47	35.	383.	562	20.17	0.28	51.	408.	612	22.28	0.45	21.	446.	662	21.87	0.50	187.	492.
513	21.80	0.20	99.	383.	563	21.65	0.61	110.	409.	613	22.18	0.35	19.	447.	663	19.43	0.97	90.	492.
514	18.99	0.94	183.	383.	564	21.25	0.37	15.	410.	614	19.38	0.95	299.	448.	664	21.66	0.28	107.	493.
515	21.91	0.39	81.	383.	565	21.24	0.25	76.	410.	615	20.80	0.51	226.	448.	665	20.58	1.60	152.	494.
516	21.92	0.53	163.	383.	566	21.50	0.38	88.	412.	616	20.42	0.26	249.	449.	666	19.69	0.65	56.	495.
517	21.73	0.32	150.	384.	567	22.16	0.27	11.	413.	617	20.00	0.29	20.	452.	667	20.88	0.81	212.	501.
518	22.00	0.50	52.	385.	568	19.55	0.30	214.	413.	618	22.22	0.31	63.	453.	668	21.75	0.46	244.	501.
519	20.43	0.39	118.	386.	569	19.04	0.94	62.	414.	619	21.61	0.48	318.	453.	669	19.14	0.85	5.	501.
520	21.54	0.24	148.	386.	570	21.96	0.38	37.	416.	620	20.49	0.20	174.	453.	670	20.65	0.40	310.	501.
521	22.11	0.29	177.	387.	571	21.83	0.06	146.	416.	621	20.94	0.35	68.	454.	671	23.07	0.51	237.	503.
522	22.12	0.34	44.	387.	572	20.21	0.29	130.	416.	622	21.29	0.50	14.	454.	672	21.54	0.33	184.	505.
523	21.34	0.39	25.	387.	573	20.63	0.38	49.	416.	623	20.24	0.20	309.	456.	673	22.04	0.44	240.	505.
524	22.02	0.26	68.	388.	574	20.13	0.45	122.	417.	624	20.49	0.50	46.	459.	674	19.34	0.94	123.	506.
525	21.25	0.67	112.	388.	575	22.02	0.40	57.	417.	625	19.49	0.41	114.	459.	675	20.90	0.32	62.	507.
526	21.12	0.25	130.	389.	576	21.08	0.57	139.	417.	626	18.92	1.00	66.	460.	676	21.37	0.34	243.	507.
527	19.52	0.25	84.	389.	577	21.08	0.29	232.	417.	627	18.99	0.92	13.	461.	677	21.44	1.36	194.	508.
528	21.95	0.31	149.	389.	578	21.12	0.62	130.	419.	628	20.93	-0.23	68.	461.	678	21.49	0.62	80.	508.
529	19.66	0.19	87.	390.	579	21.04	0.41	315.	419.	629	20.90	0.37	126.	462.					
530	18.95	0.93	56.	391.	580	19.79	0.35	68.	420.	630	22.46	0.26	280.	462.					

Table 12b : Magnitudes, Colors and Positions of Stars in the field near NGC 2162.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.13	0.08	368	32	61	20.65	0.44	148	110	121	19.70	0.31	732	171	181	21.45	0.17	571	232
2	19.90	0.41	370	36	62	19.24	0.65	658	108	122	21.01	1.14	80	171	182	21.09	0.40	571	237
3	20.18	0.23	354	31	63	21.18	0.34	232	113	123	19.05	0.86	765	172	183	19.24	0.89	381	233
4	20.28	0.02	352	38	64	20.78	0.40	752	114	124	20.22	0.78	270	173	184	20.10	0.20	378	228
5	21.03	0.69	230	25	65	21.09	0.39	747	115	125	20.89	0.29	420	172	185	20.82	0.84	748	235
6	21.21	0.95	610	25	66	19.83	0.07	868	115	126	19.20	0.86	848	175	186	19.38	0.85	476	235
7	21.06	0.39	785	26	67	20.59	0.27	308	118	127	20.30	0.25	570	180	187	2'.24	0.25	964	239
8	20.44	1.04	123	26	68	20.88	-0.05	94	117	128	20.51	0.21	575	189	188	21.16	0.35	898	241
9	20.08	0.75	109	28	69	20.90	0.23	582	120	129	18.83	0.74	582	203	189	20.99	0.55	147	241
10	20.74	0.60	120	29	70	20.84	0.31	608	125	130	20.36	0.29	577	215	190	20.31	0.25	506	243
11	18.62	0.89	245	27	71	15.08	1.26	767	138	131	18.62	1.32	331	180	191	20.65	0.45	941	243
12	20.37	0.66	576	27	72	18.94	0.85	788	125	132	20.40	1.42	344	183	192	20.73	0.14	98	245
13	19.54	0.32	640	31	73	21.19	0.60	939	127	133	18.38	1.10	869	180	193	21.19	0.87	578	247
14	19.24	0.90	646	45	74	19.54	0.24	946	147	134	19.52	0.83	878	181	194	21.26	0.24	747	247
15	20.01	0.79	551	34	75	19.03	0.85	959	142	135	20.80	0.79	864	184	195	19.30	0.82	996	248
16	20.47	0.22	562	40	76	19.83	0.33	558	127	136	20.69	0.42	359	181	196	19.08	0.82	855	249
17	20.59	0.31	559	50	77	17.90	1.07	35	130	137	21.01	0.43	501	184	197	18.92	0.85	840	251
18	19.61	0.25	569	59	78	19.17	0.81	731	132	138	19.31	0.98	941	184	198	20.15	0.19	320	252
19	15.03	0.59	727	36	79	20.73	0.49	741	135	139	21.05	0.45	929	187	199	20.83	0.36	321	263
20	19.94	0.30	303	36	80	19.62	0.33	585	135	140	19.53	0.15	105	185	200	20.96	0.85	802	251
21	21.31	0.51	312	36	81	21.03	0.24	580	135	141	21.22	0.34	910	185	201	19.91	0.83	701	253
22	20.49	0.22	316	43	82	21.06	0.61	580	129	142	21.22	0.90	976	187	202	20.52	0.77	634	255
23	21.01	-0.01	172	38	83	17.94	0.62	679	135	143	18 93	1.04	986	190	203	20.64	0.34	642	262
24	19.09	0.92	269	40	84	20.47	0.11	677	130	144	21.42	-0.05	222	182	204	19.29	0.30	434	256
25	19.49	0.43	257	45	85	20.39	0.56	633	137	145	21.19	0.82	47	188	205	20.70	0.53	341	257
26	20.98	-0.01	614	40	86	19.37	0.09	892	139	146	20.95	0.40	558	189	206	21.01	0.63	370	257
27	21.00	0.65	595	46	87	21.02	0.38	904	147	147	19.44	0.96	616	188	207	19.00	0.91	372	271
28	19.76	0.27	625	45	88	18.74	1.15	298	140	148	20.32	0.19	624	194	208	20.64	0.46	369	279
29	18.99	0.94	689	40	89	20.43	0.26	271	144	149	21.19	0.20	608	200	209	19.14	0.97	784	259
30	21.24	0.87	141	47	90	20.48	1.20	320	144	150	20.96	0.55	601	201	210	20.39	0.29	258	260
31	21.28	0.02	115	55	91	19.85	0.35	325	149	151	20.67	0.46	646	188	211	19.79	0.72	510	260
32	21.15	0.46	154	56	92	20.03	0.80	229	145	152	19.27	0.99	138	189	212	20.24	0.23	507	266
33	19.57	0.99	668	60	93	21.09	0.26	240	151	153	20.31	0.84	768	190	213	20.99	0.42	153	262
34	20.08	0.20	673	61	94	20.36	0.31	552	145	154	20.78	0.29	686	196	214	20.36	0.23	144	264
35	20.77	0.60	753	61	95	17.72	1.20	709	145	155	19.58	0.36	468	198	215	18.30	0.74	150	274
36	21.29	0.90	554	64	96	20.95	0.57	695	148	156	21.12	-0.08	478	200	216	20.82	0.30	180	263
37	21.82	0.39	555	70	97	20.19	0.19	722	156	157	20.56	0.56	706	199	217	20.61	0.77	864	264
38	17.32	1.34	543	70	98	20.57	0.25	528	146	158	19.21	0.92	703	208	218	21.01	0.39	483	267
39	20.67	0.28	176	67	99	20.43	0.17	659	154	159	20.03	0.32	637	201	219	19.27	0.81	419	268
40	21.17	0.35	702	68	100	20.73	1.24	356	155	160	20.44	0.44	335	210	220	20.96	1.51	544	268
41	18.12	0.79	707	77	101	20.58	0.33	352	167	161	18.28	1.06	663	213	221	21.06	1.04	749	270
42	21.06	0.31	721	74	102	19.04	0.87	201	157	162	21.01	0.58	816	216	222	21.10	0.52	738	272
43	21.10	0.40	216	70	103	20.74	0.81	211	159	163	19.14	0.74	802	217	223	20.52	0.85	569	271
44	20.01	0.37	606	70	104	19.23	1.02	222	165	164	20.60	0.37	356	218	224	20.98	0.03	582	273
45	20.58	1.78	142	72	105	21.28	0.25	846	158	165	20.05	0.29	347	227	225	16.72	1.47	807	275
46	19.51	0.29	245	73	106	20.71	0.33	838	159	166	20.04	0.54	348	244	226	20.77	0.27	799	291
47	20.18	1 23	761	77	107	21.30	0.31	387	160	167	21.10	-0.27	344	243	227	21.27	0.41	429	279
48	20.09	0.25	343	84	108	19.55	0.34	548	161	168	21.00	0.72	339	247	228	20.02	0.98	441	280
49	19.53	0.44	352	78	109	18.23	0.91	534	169	169	20.13	0.40	467	219	229	21.16	0.23	418	283
50	21.31	0.56	563	84	110	19.20	0.81	679	162	170	21.19	0.32	461	224	230	19.36	0.95	727	280
51	20.78	0.44	274	86	111	19.23	0.86	692	173	171	19.50	0.96	449	225	231	21.17	-0.04	385	281
52	20.20	0.08	724	90	112	20.37	0.43	681	180	172	19.28	0.27	311	221	232	20.22	0.52	323	289
53	20.29	0.26	68	92	113	21.29	0.34	562	164	173	17.37	1.16	301	238	233	20.59	0.28	70	286
54	20.95	0.15	601	101	114	21.10	0.51	628	165	174	20.55	0.38	775	226	234	21.00	0.22	64	291
55	20.82	0.26	592	107	115	20.47	0.26	313	167	175	20.66	0.45	766	234	235	20.78	1.06	355	287
56	20.72	-0.02	624	99	116	20.75	0.42	518	167	176	20.86	0.20	789	226	236	19.53	0.09	560	288
57	19.28	0.86	675	99	117	19.41	0.82	253	168	177	19.20	0.91	136	227	237	16.33	1.78	578	299
58	18.49	0.80	51	106	118	20.49	0.43	997	170	178	20.60	0.82	925	229	238	19.81	0.93	598	301
59	21.15	0.33	62	107	119	19.49	0.89	399	171	179	20.73	0.32	625	230	239	21.05	0.32	592	310
60	21.19	0.50	141	106	120	20.83	0.28	393	172	180	20.92	0.71	547	231	240	17.41	1.38	125	292

Table 12b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.48	0.25	131	306	301	18.85	-0.04	512	379	361	21.15	0.87	156	464	421	20.89	0.58	189	564
242	18.73	0.83	483	292	302	19.73	0.03	824	385	362	21.21	0.44	475	464	422	20.76	0.42	201	562
243	20.52	0.31	953	294	303	20.80	0.43	846	386	363	20.80	0.30	477	470	423	19.89	0.82	621	552
244	20.52	0.32	719	294	304	20.58	0.07	532	383	364	21.18	0.95	300	467	424	19.48	0.14	388	553
245	19.52	0.26	387	303	305	18.82	0.99	159	398	365	20.48	0.40	646	467	425	20.70	0.41	399	556
246	21.15	0.64	158	305	306	18.98	0.70	169	386	366	19.21	0.90	728	468	426	19.15	0.95	412	559
247	20.90	0.39	165	306	307	19.80	0.73	167	387	367	19.62	1.29	105	471	427	20 72	0.40	413	564
248	20.65	0.21	359	314	308	20.94	0.35	752	388	368	20.53	0.34	757	478	428	20.83	0.45	224	555
249	19.00	1.09	499	313	309	19.50	0.48	442	388	369	21.02	1.04	939	480	429	20.96	0.46	525	555
250	21.21	0.28	995	312	310	20.09	0.33	397	391	370	18.29	1.83	926	484	430	20.75	0.80	976	556
251	21.18	0.87	776	314	311	21.18	0.29	959	399	371	20.80	0.28	915	483	431	20.11	0.46	461	562
252	18.89	0.70	86	316	312	18.41	1.34	840	403	372	21.17	0.51	919	487	432	20.29	0.38	787	563
253	20.25	0.66	279	316	313	18.86	0.82	262	405	373	20.41	0.42	955	482	433	20.68	0.63	658	564
254	20.31	0.92	279	324	314	18.61	0.86	270	413	374	18.62	1.13	970	481	434	20.83	0.27	933	565
255	20.61	0.14	387	321	315	20.49	0.37	271	418	375	20.61	0.60	71	485	435	19.00	0.95	923	574
256	21.06	0.33	552	321	316	20.51	0.38	242	406	376	20.30	0.57	837	485	436	21.06	0.12	920	587
257	20.11	0.40	466	324	317	20.48	0.41	913	406	377	20.66	0.36	330	488	437	17.94	0.76	123	566
258	21.07	0.62	200	332	318	19.06	0.81	86	407	378	19.57	0.75	676	493	438	21.18	0.27	117	566
259	20.84	0.23	671	333	319	20.66	0.65	86	416	379	20.87	0.87	294	495	439	21.15	0.45	129	574
260	20.82	0.16	434	335	320	20.66	0.86	84	422	380	18.00	1.16	309	497	440	20.79	0.45	822	566
261	20.84	0.34	823	335	321	20.85	0.88	981	407	381	18.21	1.14	537	496	441	19.53	0.90	757	568
262	20.83	0.21	917	334	322	19.77	0.74	721	408	382	21.06	0.46	862	495	442	19.29	1.43	772	571
263	20.93	0.94	945	335	323	20.80	0.44	391	409	383	20.06	0.27	95	500	443	19.77	0.35	307	569
264	17.92	0.57	33	338	324	20.83	0.41	500	413	384	17.52	1.07	113	500	444	19.65	0.64	430	571
265	20.82	0.35	268	338	325	20.44	0.38	427	418	385	20.49	0.84	124	514	445	20.44	0.37	94	572
266	20.26	0.79	277	342	326	20.24	0.14	580	420	386	20.84	0.39	424	500	446	19.74	1.38	473	572
267	17.60	0.94	278	356	327	21.18	0.79	155	422	387	20.96	0.33	388	500	447	16.41	0.78	716	574
268	18.99	0.89	273	365	328	20.93	0.74	344	422	388	20.33	0.28	884	500	448	19.73	1.12	708	577
269	21.16	0.3[illegible]	268	346	329	21.16	0.16	785	425	389	20.92	0.28	233	506	449	21.21	0.58	723	565
270	17.02	1.26	629	338	330	20.92	0.82	847	427	390	21.02	0.91	449	506	450	20.02	0.17	181	576
271	20.48	0.18	109	339	331	20.38	0.30	948	432	391	21.20	0.30	750	507	451	17.65	1.47	956	576
272	21.04	1.38	121	345	332	19.14	1.17	968	433	392	20.36	0.22	273	508	452	20.73	0.99	951	574
273	21.24	0.14	407	340	333	21.07	0.55	772	435	393	20.61	0.42	947	509	453	20.55	0.32	204	578
274	19.81	0.91	413	352	334	20.47	0.29	657	436	394	21.13	0.36	989	508	454	20.46	0.35	994	578
275	19.50	0.94	972	341	335	19.25	1.11	413	438	395	21.18	0.59	917	516	455	19.17	0.95	607	579
276	20.34	0.41	393	341	336	20.52	0.77	480	439	396	18.84	0.75	907	524	456	20.99	0.42	632	580
277	20.33	0.88	256	342	337	21.06	0.08	485	438	397	20.08	0.91	255	521	457	20.41	0.37	36	585
278	20.78	0.35	252	351	338	19.03	0.94	719	440	398	20.71	0.34	509	522	458	21.09	0.27	48	584
279	20.73	0.17	373	343	339	20.97	0.35	732	445	399	18.59	0.82	542	523	459	19.74	0.28	825	584
280	19.13	0.15	848	348	340	19.36	0.95	716	452	400	20.37	0.13	204	524	460	21.13	0.28	835	594
281	20.69	0.77	223	349	341	20.34	0.31	180	442	401	20.01	0.78	401	524	461	20.40	0.34	287	587
282	18.23	1.13	161	352	342	19.08	0.75	912	442	402	20.30	0.43	189	529	462	20.83	0.08	765	587
283	20.57	0.35	166	349	343	21.02	0.59	914	456	403	18.79	0.82	587	530	463	20.60	0.61	679	589
284	18.65	1.45	598	352	344	20.98	0.28	814	443	404	17.86	1.20	290	531	464	20.91	0.44	112	593
285	21.01	0.64	603	360	345	19.72	0.82	888	443	405	18.86	0.79	286	533	465	19.08	0.81	332	594
286	18.97	0.83	335	359	346	20.82	0.73	632	446	406	21.30	0.21	988	531	466	19.23	0.82	710	598
287	18.08	1.02	324	369	347	20.53	0.52	437	448	407	19.10	0.90	40	533	467	21.12	0.42	280	604
288	20.87	0.35	756	362	348	13.90	1.03	129	449	408	21.12	0.24	270	537	468	20.87	0.31	281	609
289	20.95	0.24	711	363	349	17.71	1.44	122	443	409	19.30	0.77	89	538	469	19.16	1.52	899	605
290	20.71	0.59	101	367	350	20.29	0.29	543	450	410	21.11	0.35	322	539	470	21.00	1.46	845	606
291	21.03	0.42	147	367	351	20.48	0.28	531	452	411	20.90	0.82	313	539	471	20.01	0.89	492	607
292	16.27	0.74	785	371	352	20.52	0.36	62	452	412	21.12	0.49	432	538	472	19.09	0.95	134	608
293	20.84	0.42	768	379	353	20.47	0.87	305	451	413	20.59	0.35	69	541	473	20.31	0.88	428	609
294	20.52	1.08	787	388	354	18.68	0.83	757	452	414	20.91	0.36	705	540	474	20.09	0.32	458	615
295	21.00	0.58	699	372	355	19.20	0.50	755	459	415	17.84	1.18	864	548	475	20.88	0.37	214	616
296	19.15	0.84	667	374	356	17.57	1.23	571	454	416	15.98	0.98	889	551	476	19.13	0.86	648	616
297	20.42	0.30	609	374	357	20.94	0.39	605	459	417	18.61	1.01	863	568	477	21.04	0.15	706	617
298	21.22	0.47	606	381	358	20.02	0.15	988	460	418	20.63	0.24	46	550	478	20.62	1.08	871	619
299	20.76	1.04	73	378	359	21.13	0.33	987	466	419	20.96	0.30	30	556	479	20.90	0.48	810	620
300	20.84	0.88	403	378	360	16.46	0.57	267	461	420	20.43	0.34	192	552	480	19.63	0.92	528	622

Table 12b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.81	0.43	279	623	541	17.61	0.65	896	712	601	19.54	1.28	899	814	661	18.54	0.86	796	913
482	20.93	0.67	388	623	542	20.83	0.43	638	713	602	20.61	0.85	903	813	662	18.98	0.99	794	910
483	21.00	0.32	325	624	543	20.87	0.84	402	714	603	20.91	0.42	553	815	663	21.00	0.33	961	912
484	19.95	0.26	964	625	544	21.11	0.25	476	716	604	20.44	0.33	545	817	664	20.55	1.11	974	913
485	19.69	0.08	607	626	545	19.27	0.67	501	717	605	21.14	0.57	972	815	665	19.59	-0.04	51	915
486	19.11	0.74	613	636	546	20.84	0.97	523	719	606	18.31	0.62	852	816	666	17.86	1.19	339	925
487	21.04	0.57	629	629	547	21.18	0.32	390	720	607	18.83	0.89	998	817	667	21.06	0.73	575	915
488	17.32	0.76	841	630	548	20.17	0.40	607	720	608	21.31	0.11	75	818	668	19.08	0.81	277	916
489	21.02	0.25	851	624	549	20.87	0.58	945	724	609	19.23	0.96	314	818	669	20.77	0.28	69	920
490	16.52	0.74	926	633	550	12.75	0.97	318	724	610	20.82	0.44	796	821	670	20.86	0.61	185	921
491	19.76	0.16	716	632	551	20.85	0.44	305	741	611	20.52	0.22	237	823	671	20.81	0.30	710	921
492	20.72	0.31	400	643	552	20.67	0.51	815	725	612	20.88	0.30	495	824	672	19.70	0.87	723	923
493	16.72	0.88	782	642	553	20.16	1.00	918	727	613	20.48	0.10	702	826	673	21.20	0.53	464	922
494	20.19	0.78	791	654	554	18.48	1.17	554	728	614	21.06	0.40	470	830	674	21.04	0.24	918	925
495	21.08	0.19	793	663	555	20.96	0.64	581	729	615	20.93	0.28	603	831	675	21.02	0.35	642	928
496	18.24	0.90	62	643	556	16.69	1.05	92	734	616	18.85	0.88	624	833	676	19.56	-0.23	756	928
497	20.79	0.15	62	651	557	20.49	0.76	766	735	617	20.95	0.47	616	835	677	19.11	0.87	805	930
498	20.71	0.75	213	647	558	17.71	1.19	759	748	618	20.35	1.01	99	834	678	18.91	0.86	226	932
499	19.65	1.29	210	656	559	19.32	0.86	750	750	619	20.28	0.79	791	839	679	20.13	0.34	933	936
500	20.81	0.28	636	647	560	18.16	0.78	180	737	620	19.03	0.89	440	841	680	19.28	0.82	390	947
501	18.23	0.69	859	649	561	21.19	0.35	925	739	621	20.85	0.36	444	851	681	17.53	1.32	527	942
502	21.12	0.10	863	646	562	20.66	0.88	732	747	622	18.92	0.99	453	853	682	21.21	0.43	438	948
503	21.02	0.37	853	644	563	20.56	0.15	36	755	623	19.26	0.26	174	842	683	18.84	0.86	444	962
504	20.39	0.13	495	652	564	16.38	1.77	896	755	624	20.47	0.22	491	842	684	19.40	0.99	440	975
505	20.81	0.68	162	653	565	20.75	0.44	909	765	625	18.97	0.89	585	847	685	20.29	0.25	871	950
506	20.80	0.39	599	655	566	21.03	0.05	171	755	626	19.78	1.19	587	859	686	19.15	0.89	860	961
507	19.96	0.73	605	665	567	20.20	0.86	494	758	627	19.30	0.77	949	851	687	17.95	1.16	858	970
508	20.42	0.11	956	655	568	21.07	0.79	793	768	628	19.11	0.95	935	860	688	20.57	0.23	929	950
509	21.28	0.50	957	661	569	20.81	0.46	488	769	629	20.92	0.41	923	868	689	20.25	0.12	414	950
510	18.48	1.07	973	661	570	18.92	1.49	495	777	630	20.77	0.32	912	868	690	17.73	1.16	653	954
511	21.09	1.10	967	659	571	16.15	0.93	499	800	631	21.28	0.17	519	864	691	21.11	1.44	645	949
512	17.61	1.24	532	657	572	19.14	0.73	487	810	632	19.49	1.53	512	866	692	21.14	0.41	846	955
513	20.70	0.13	50	660	573	20.90	0.80	485	794	633	20.10	0.88	516	873	693	17.33	0.96	492	965
514	21.16	0.94	239	661	574	19.49	0.62	42	771	634	20.49	0.31	690	864	694	20.89	0.37	556	958
515	20.74	0.74	485	664	575	19.65	1.10	275	777	635	19.43	0.94	419	866	695	19.07	0.96	182	959
516	17.51	0.80	345	667	576	20.81	0.36	200	771	636	18.77	0.67	260	866	696	20.75	0.31	324	960
517	20.32	0.27	181	671	577	21.08	0.56	857	772	637	20.83	0.26	46	870	697	20.65	0.41	102	962
518	19.12	0.60	870	672	578	18.89	0.78	147	780	638	20.76	0.31	803	873	698	21.08	0.89	466	963
519	20.72	0.45	308	673	579	16.42	1.09	127	772	639	20.93	0.25	143	876	699	20.51	0.31	293	965
520	19.01	1.41	307	684	580	17.44	1.24	126	775	640	20.88	0.23	439	875	700	20.76	0.68	893	965
521	19.34	1.10	313	689	581	21.00	0.82	440	773	641	20.61	0.28	841	875	701	19.21	0.91	898	974
522	20.02	0.17	323	674	582	20.50	0.36	434	780	642	21.01	0.65	588	877	702	20.40	0.41	365	966
523	20.79	0.44	107	677	583	20.46	0.59	833	780	643	19.94	0.76	290	881	703	17.70	1.15	373	974
524	19.03	0.87	100	682	584	20.80	0.38	576	782	644	21.07	0.16	640	881	704	18.88	0.85	53	970
525	19.69	1.16	370	682	585	20.51	0.35	364	788	645	19.03	0.81	727	888	705	20.36	1.22	210	970
526	20.65	0.20	649	683	586	20.29	0.77	774	789	646	18.08	0.87	228	889	706	19.27	0.79	144	972
527	19.53	0.24	457	689	587	19.97	0.24	912	792	647	18.69	0.84	39	890	707	20.92	0.46	667	972
528	19.84	0.90	459	684	588	20.25	1.17	921	804	648	19.04	0.82	754	890	708	19.15	0.96	74	973
529	18.73	0.85	862	690	589	18.50	1.05	176	793	649	20.34	0.47	679	891	709	19.93	1.44	518	974
530	20.24	0.36	894	692	590	20.78	0.37	115	796	650	16.22	0.73	864	897	710	20.88	0.23	287	981
531	21.02	0.16	443	703	591	20.86	1.08	43	797	651	19.27	0.84	869	907	711	20.66	0.61	157	982
532	17.60	0.76	184	695	592	20.44	0.44	641	797	652	18.97	1.02	412	911	712	19.66	0.83	264	981
533	19.08	0.98	357	698	593	20.78	0.10	571	802	653	20.07	1.34	398	918	713	21.13	0.14	275	981
534	19.13	0.83	755	703	594	20.99	0.34	333	803	654	15.56	0.63	105	902	714	19.26	0.85	727	982
535	18.87	0.90	837	702	595	20.40	0.62	770	803	655	19.70	0.83	92	911	715	18.30	1.07	309	983
536	20.72	0.37	995	703	596	21.04	0.49	350	804	656	19.77	0.04	989	905	716	19.26	1.29	660	988
537	18.44	0.91	49	704	597	20.87	0.41	601	808	657	19.17	0.93	313	907	717	21.11	0.37	275	995
538	21.15	0.31	975	706	598	21.24	0.68	178	813	658	20.79	0.50	233	910	718	20.39	0.21	693	997
539	21.02	0.69	653	709	599	20.73	0.52	366	813	659	21.28	0.35	238	913	719	19.12	0.73	330	54
540	20.69	0.36	871	709	600	18.44	0.72	389	812	660	20.62	0.42	201	912	720	16.87	1.51	340	58

Table 12b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	17.64	0.70	328	68	733	20.21	0.23	336	111	745	21.33	-0.21	415	197	757	20.92	0.24	425	217
722	20.54	0.40	322	66	734	21.00	0.22	444	180	746	20.61	0.14	516	193	758	19.83	0.60	422	228
723	20.97	0.15	321	79	735	19.15	0.69	444	170	747	19.04	0.86	511	203	759	20.98	0.19	426	238
724	20.16	0.36	311	84	736	20.53	0.35	517	183	748	19.65	0.23	502	209	760	21.20	0.13	432	243
725	20.19	0.26	323	86	737	20.41	0.81	528	185	749	19.75	0.30	509	214	761	21.01	0.34	539	467
726	18.65	0.77	314	98	738	19.44	0.72	433	187	750	16.25	1.69	493	223	762	19.25	0.77	535	477
727	21.13	0.07	307	96	739	18.78	0.73	429	199	751	20.86	0.33	516	201	763	19.50	0.83	528	476
728	21.03	0.36	300	92	740	18.04	1.23	440	208	752	19.26	0.81	488	223	764	15.73	0.65	511	478
729	20.62	0.33	324	107	741	19.90	0.30	417	188	753	21.16	0.17	375	197	765	19.96	0.94	491	478
730	19.61	0.35	344	124	742	15.92	4.77	407	203	754	20.22	0.31	370	201	766	20.96	0.21	355	125
731	21.30	0.58	348	115	743	19.01	0.87	387	201	755	21.24	0.42	454	203	767	19.00	0.80	357	134
732	20.01	0.42	332	108	744	20.00	0.15	393	193	756	21.24	0.12	420	215	768	19.82	0.45	373	152

Table 13a : Magnitudes, Colors and Positions of Stars in NGC 2173.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	22.56	0.81	97.	20.	61	21.58	0.49	198.	93.	121	20.77	0.36	197.	146.	181	21.40	0.37	87.	180.
2	23.07	0.48	111.	20.	62	20.30	0.32	238.	94.	122	21.29	0.34	202.	147.	182	21.65	1.00	33.	180.
3	22.10	0.71	159.	23.	63	21.26	0.52	124.	94.	123	21.27	0.16	126.	148.	183	20.86	0.47	213.	181.
4	20.73	0.49	110.	24.	64	21.17	1.28	40.	95.	124	21.05	0.37	94.	148.	184	17.17	0.77	232.	181.
5	21.96	0.56	220.	26.	65	20.87	0.34	189.	95.	125	21.80	0.44	70.	148.	185	21.76	0.45	134.	181.
6	22.13	0.47	129.	27.	66	21.60	0.33	73.	96.	126	21.01	0.35	79.	149.	186	21.66	0.37	245.	182.
7	21.91	0.70	26.	30.	67	21.20	0.44	70.	96.	127	21.56	0.55	34.	149.	187	21.95	1.08	32.	184.
8	20.86	0.08	269.	31.	68	20.55	0.52	181.	97.	128	20.52	0.54	267.	150.	188	19.17	0.85	293.	184.
9	21.12	0.54	243.	31.	69	21.62	0.58	14.	98.	129	21.01	0.47	179.	151.	189	21.81	0.03	126.	184.
10	22.58	0.33	214.	32.	70	21.84	0.42	210.	99.	130	21.33	0.65	23.	152.	190	21.30	0.56	213.	184.
11	21.23	0.42	182.	32.	71	21.17	0.56	64.	101.	131	21.23	0.39	66.	152.	191	20.87	0.40	198.	184.
12	20.89	1.38	220.	33.	72	16.95	1.39	95.	101.	132	22.05	0.26	31.	154.	192	21.31	0.43	262.	185.
13	22.08	0.43	85.	35.	73	17.74	1.22	164.	103.	133	18.99	1.00	50.	155.	193	21.15	0.33	168.	185.
14	22.09	0.76	80.	36.	74	21.89	0.66	208.	103.	134	21.02	0.31	192.	155.	194	20.27	0.35	175.	186.
15	18.36	0.96	100.	37.	75	21.33	0.85	133.	104.	135	21.57	0.61	223.	155.	195	20.74	0.42	118.	186.
16	21.15	0.40	223.	38.	76	19.89	0.86	183.	104.	136	20.60	0.41	107.	155.	196	20.69	0.41	145.	187.
17	20.75	0.74	14.	38.	77	21.40	0.36	203.	104.	137	21.38	0.36	97.	157.	197	20.62	0.34	84.	187.
18	19.14	0.97	131.	38.	78	19.09	0.87	268.	104.	138	19.53	0.99	146.	157.	198	21.17	0.53	61.	188.
19	21.00	1.34	176.	40.	79	20.79	0.44	74.	106.	139	20.32	0.42	88.	157.	199	20.16	0.45	193.	188.
20	21.71	0.57	169.	41.	80	17.92	1.17	105.	108.	140	19.54	0.96	248.	158.	200	21.00	0.37	39.	188.
21	22.32	0.31	59.	42.	81	20.26	0.39	217.	110.	141	21.49	0.95	58.	159.	201	21.98	0.49	263.	189.
22	22.12	0.43	170.	44.	82	19.94	0.87	165.	110.	142	20.50	0.85	151.	159.	202	21.70	1.30	146.	189.
23	17.77	1.13	134.	45.	83	20.41	0.78	69.	113.	143	21.13	0.55	260.	159.	203	20.25	0.41	80.	191.
24	22.14	0.47	74.	47.	84	21.56	0.28	95.	116.	144	19.93	0.38	118.	162.	204	21.66	0.38	45.	191.
25	21.36	0.55	182.	48.	85	21.13	0.48	39.	116.	145	21.43	0.13	75.	163.	205	21.70	0.43	256.	192.
26	20.93	0.45	52.	49.	86	20.63	0.38	125.	116.	146	19.95	0.48	154.	164	206	19.05	0.88	242.	192.
27	21.24	0.54	186.	49.	87	22.09	1.15	26.	117.	147	20.85	0.83	292.	164.	207	21.80	0.41	267.	192.
28	21.72	0.50	124.	50.	88	23.24	-0.01	27.	119.	148	20.52	0.39	195.	165.	208	20.91	0.39	146.	193.
29	21.37	0.51	230.	50.	89	20.85	0.46	272.	120.	149	20.70	0.39	100.	165.	209	20.62	0.30	97.	193.
30	21.79	1.60	90.	52.	90	20.71	0.30	184.	120.	150	22.53	0.17	74.	165.	210	20.43	0.38	103.	193.
31	20.35	0.75	150.	53.	91	20.63	0.82	46.	121.	151	20.74	0.50	174.	165.	211	20.90	0.38	166.	194.
32	21.87	0.52	20.	55.	92	20.63	0.85	113.	122.	152	20.68	0.30	125.	165.	212	19.49	0.17	283.	194.
33	18.79	1.05	279.	55.	93	20.53	0.26	150.	122.	153	18.90	0.84	203.	165.	213	19.17	1.02	226.	194.
34	21.95	0.85	140.	55.	94	20.99	0.91	29.	123.	154	21.59	1.11	72.	166.	214	21.05	0.11	260.	195.
35	22.28	0.93	53.	55.	95	21.02	0.57	89.	123.	155	21.02	0.47	187.	166.	215	21.46	0.89	268.	196.
36	22.05	0.75	136.	55.	96	21.28	0.28	156.	124.	156	19.86	0.44	92.	167.	216	20.71	0.33	149.	196.
37	18.92	0.88	47.	56.	97	21.02	0.92	23.	124.	157	21.53	0.34	25.	167.	217	20.65	0.39	64.	196.
38	21.99	0.56	11.	57.	98	20.84	0.34	246.	125.	158	21.22	0.55	223.	168.	218	21.06	0.33	143.	196.
39	21.63	0.38	268.	60.	99	21.03	0.41	67.	126.	159	21.11	0.49	10.	168.	219	18.41	1.06	22.	199.
40	21.14	1.06	75.	61.	100	18.48	1.07	108.	126.	160	19.46	0.96	170.	169.	220	17.18	1.20	157.	200.
41	20.64	0.40	122.	61.	101	20.89	0.57	289.	127.	161	19.29	0.87	180.	171.	221	19.48	0.80	212.	201.
42	21.13	0.59	144.	61.	102	20.76	0.39	51.	128.	162	21.73	0.81	155.	171.	222	21.83	0.21	75.	201.
43	22.09	0.58	117.	63.	103	21.92	0.52	157.	131.	163	19.14	1.00	132.	172.	223	19.38	0.93	97.	202.
44	22.51	-0.11	175.	63.	104	19.96	0.50	113.	133.	164	21.48	0.20	119.	172.	224	21.19	0.45	41.	202.
45	21.73	0.33	301.	64.	105	21.33	0.42	198.	134.	165	20.82	0.47	285.	173.	225	21.30	0.53	231.	203.
46	21.27	1.03	173.	65.	106	21.44	0.21	128.	134.	166	20.73	0.89	74.	173.	226	19.13	0.89	81.	204.
47	21.96	0.53	83.	69.	107	21.91	0.41	202.	135.	167	20.83	0.36	219.	173.	227	21.04	0.58	166.	205.
48	21.21	0.47	264.	72.	108	21.53	0.42	176.	135.	168	20.75	0.34	114.	174.	228	20.75	0.20	218.	205.
49	21.24	0.43	232.	72.	109	17.05	1.27	143.	136.	169	18.63	0.94	147.	174.	229	20.37	0.43	102.	205.
50	21.97	0.73	86.	74.	110	20.68	0.14	63.	136.	170	21.47	0.24	237.	175.	230	20.90	0.43	200.	206.
51	21.23	0.36	54.	75.	111	20.44	0.36	12.	137.	171	19.16	0.83	137.	175.	231	18.68	0.91	272.	207.
52	21.46	0.68	85.	78.	112	21.54	0.59	231.	138.	172	21.01	0.46	110.	176.	232	20.26	0.63	50.	207.
53	21.27	1.07	195.	80.	113	20.92	0.44	82.	138.	173	20.94	0.79	117.	176.	233	20.53	0.85	294.	207.
54	21.86	0.34	242.	82.	114	19.85	0.82	22.	139.	174	22.00	0.22	86.	176.	234	19.59	0.23	215.	209.
55	19.83	0.92	211.	83.	115	20.90	0.34	184.	141.	175	21.83	0.26	208.	177.	235	20.49	0.42	47.	209.
56	21.08	0.41	251.	86.	116	20.17	0.50	173.	142.	176	19.12	0.88	123.	177.	236	21.55	0.47	284.	209.
57	21.69	0.34	9.	87.	117	22.02	0.30	80.	143.	177	20.40	0.43	93.	177.	237	20.77	0.43	206.	210.
58	20.97	0.43	167.	87.	118	21.31	0.51	114.	144.	178	20.19	0.26	50.	178.	238	20.65	0.34	161.	210.
59	20.80	0.48	98.	88.	119	21.67	0.54	26.	144.	179	19.15	0.90	223.	178.	239	17.70	1.19	91.	212.
60	21.01	0.44	203.	91.	120	21.79	0.65	187.	145.	180	21.60	0.80	79.	179.	240	19.17	0.86	227.	212.

Table 13a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	20.40	0.39	31.	212.	301	21.45	0.41	68.	249.	361	20.14	0.66	269.	284.	421	21.45	0.31	216.	326.
242	19.27	0.77	263.	212.	302	18.20	0.92	163.	249.	362	20.90	1.30	82.	284.	422	20.42	0.46	57.	327.
243	20.45	0.25	157.	213.	303	20.76	0.44	223.	250.	363	21.88	0.11	59.	286.	423	21.35	0.36	26[illegible]	329.
244	20.59	0.38	269.	214.	304	20.86	0.73	53.	251.	364	21.80	0.15	47.	287.	424	18.98	0.81	230.	329.
245	21.50	0.33	102.	214.	305	20.33	0.50	48.	251.	365	21.00	0.40	245.	287.	425	21.38	0.35	199.	329.
246	20.75	0.36	194.	214.	306	20.00	0.53	84.	251.	366	20.16	0.47	22.	290.	426	20.97	0.56	62.	330.
247	19.48	0.87	82.	214.	307	21.03	0.42	257.	253.	367	20.87	0.49	225.	291.	427	21.50	0.57	102.	330.
248	21.17	0.43	219.	216.	308	20.28	0.54	245.	253.	368	20.33	0.45	54.	291.	428	19.05	0.90	74.	332.
249	19.19	0.88	226.	216.	309	21.33	0.43	229.	253.	369	20.95	0.35	28.	291.	429	20.78	0.37	84.	332.
250	20.67	1.11	20.	217.	310	19.14	1.32	154.	253.	370	20.77	0.56	247.	292.	430	21.40	0.50	66.	334.
251	21.57	0.24	201.	218.	311	20.67	0.69	190.	253.	371	19.91	0.45	80.	293.	431	19.13	0.84	225.	334.
252	21.78	0.46	282.	218.	312	21.25	0.46	210.	254.	372	21.50	0.42	283.	294.	432	18.55	1.05	48.	335.
253	19.19	0.92	46.	219.	313	21.84	0.43	251.	255.	373	20.00	0.77	59.	295.	433	20.99	0.39	32.	335.
254	22.00	0.65	269.	220.	314	21.01	0.79	72.	255.	374	21.44	0.35	48.	296.	434	21.49	0.40	248.	336.
255	21.38	0.45	195.	220.	315	19.03	0.81	217.	256.	375	19.13	0.91	268.	296.	435	21.94	0.26	199.	336.
256	21.10	0.36	204.	223.	316	19.08	1.02	61.	256.	376	19.88	0.55	72.	296.	436	21.77	0.51	14.	337.
257	21.44	0.84	76.	223.	317	20.83	0.39	261.	257.	377	16.54	1.58	253.	297.	437	21.95	0.39	203.	340.
258	20.88	0.37	29.	223.	318	18.06	1.18	143.	257.	378	21.68	0.42	261.	298.	438	20.98	0.46	284.	343.
259	20.49	0.57	199.	224.	319	19.86	0.20	79.	258.	379	21.59	0.58	65.	298.	439	20.76	0.25	227.	343.
260	20.85	0.33	27.	226.	320	16.97	1.20	87.	258.	380	18.92	0.98	234.	300.	440	21.40	-0.03	145.	344.
261	19.26	0.84	216.	227.	321	18.77	1.09	96.	258.	381	21.23	0.42	16.	301.	441	20.23	0.52	12.	344.
262	20.17	0.39	210.	227.	322	20.48	0.70	208.	259.	382	18.35	1.19	226.	302.	442	21.20	0.49	25.	344.
263	21.92	0.55	25.	228.	323	19.18	0.64	108.	260.	383	20.06	0.39	67.	303.	443	17.91	1.14	210.	344.
264	20.09	0.38	206.	229.	324	21.52	0.47	241.	260.	384	20.50	0.48	245.	304.	444	20.44	0.32	196.	345.
265	19.00	0.82	105.	230.	325	21.01	0.32	195.	261.	385	21.01	0.28	46.	304.	445	20.71	0.86	142.	346.
266	20.84	0.36	225.	231.	326	16.07	1.88	156.	261.	386	21.91	0.23	8.	306.	446	20.82	0.61	29.	347.
267	18.93	0.76	50.	231.	327	21.70	0.29	231.	263.	387	20.19	0.39	293.	306.	447	21.53	0.18	21.	349.
268	20.89	0.39	286.	232.	328	22.15	1.17	37.	266.	388	19.86	0.89	269.	307.	448	18.48	0.96	221.	350.
269	19.07	1.06	110.	232.	329	18.04	0.99	113.	266.	389	18.63	0.76	127.	307.	449	20.85	0.47	53.	351.
270	19.72	0.50	75.	233.	330	20.79	0.34	285.	266.	390	20.20	0.54	215.	307.	450	22.01	0.14	174.	352.
271	16.37	0.93	45.	233.	331	21.44	0.34	196.	267.	391	19.75	0.39	63.	308.	451	20.93	0.49	270.	353.
272	20.97	0.45	258.	234.	332	21.45	0.31	212.	267.	392	20.78	0.80	285.	308.	452	21.18	0.60	146.	354.
273	20.49	0.62	99.	234.	333	20.40	0.91	294.	268.	393	19.05	0.56	121.	308.	453	21.18	0.45	204.	354.
274	21.33	0.45	232.	235.	334	21.80	0.44	252.	270.	394	21.33	0.62	274.	309.	454	19.77	0.91	193.	356.
275	20.63	0.40	221.	235.	335	20.30	0.37	189.	270.	395	20.69	0.46	52.	310.	455	21.23	0.33	161.	356.
276	21.84	0.59	31.	235.	336	18.33	0.89	116.	271.	396	20.41	0.45	229.	310.	456	19.13	0.87	78.	356.
277	20.82	0.31	17.	236.	337	19.06	0.87	201.	271.	397	17.77	1.02	241.	311.	457	18.30	1.06	16.	356.
278	19.99	0.45	60.	237.	338	18.11	0.89	47.	272.	398	21.76	0.40	259.	312.	458	19.10	0.92	70.	357.
279	20.92	0.28	181.	237.	339	21.76	0.38	254.	273.	599	18.86	0.80	37.	312.	459	20.44	0.35	211.	357.
280	21.06	0.41	235.	238.	340	18.80	0.87	31.	274.	400	22.11	0.42	25.	312.	460	20.95	0.47	39.	357.
281	22.06	0.38	288.	238.	341	18.75	1.00	221.	274.	401	20.14	0.15	118.	313.	461	19.09	0.93	174.	358.
282	22.03	-0.14	90.	238.	342	21.32	0.38	235.	275.	402	21.52	0.25	274.	313.	462	20.76	0.56	141.	358.
283	20.35	0.60	53.	239.	343	19.17	0.91	206.	275.	403	21.31	0.49	16.	316.	463	20.64	0.49	43.	359.
284	17.31	1.18	214.	240.	344	20.67	0.43	239.	275.	404	20.24	0.35	211.	317.	464	19.19	0.92	163.	362.
285	19.03	1.02	37.	240.	345	20.46	0.46	229.	276.	405	20.93	1.02	63.	317.	465	21.30	0.17	227.	362.
286	20.48	0.39	73.	241.	346	18.53	0.75	118.	276.	406	22.47	-0.22	103.	318.	466	21.58	0.50	70.	363.
287	18.55	0.97	84.	241.	347	21.01	0.42	55.	277.	407	19.98	1.03	122.	318.	467	20.09	0.42	76.	364.
288	18.02	0.99	136.	241.	348	20.61	0.45	41.	277.	408	19.21	0.83	57.	320.	468	22.21	0.44	41.	364.
289	18.28	0.74	143.	242.	349	18.30	1.02	265.	278.	409	20.40	0.36	113.	321.	469	20.56	0.21	220.	365.
290	20.92	0.77	225.	243.	350	21.57	0.41	275.	278.	410	19.08	0.89	204.	321.	470	21.70	0.42	202.	366.
291	21.31	0.29	242.	243.	351	20.11	0.44	49.	279.	411	20.29	0.49	63.	322.	471	18.36	1.07	186.	366.
292	21.16	0.38	56.	245.	352	22.08	0.11	248.	279.	412	20.90	0.46	69.	322.	472	21.44	0.42	268.	366.
293	21.76	0.44	258.	246.	353	20.85	0.25	60.	280.	413	18.59	0.94	224.	323.	473	19.89	0.51	64.	367.
294	18.83	1.13	89.	246.	354	21.32	0.41	255.	280.	414	18.95	0.90	49.	323.	474	21.40	0.25	42.	367.
295	21.60	0.23	238.	247.	355	21.85	0.40	71.	281.	415	20.34	0.43	192.	324.	475	20.72	0.69	288.	367.
296	20.69	0.34	202.	248.	356	21.39	0.40	15.	281.	416	20.75	0.37	22.	324.	476	20.20	0.63	84.	367.
297	18.37	0.81	81.	248.	357	20.66	0.43	212.	281.	417	21.16	0.49	279.	324.	477	18.40	1.07	171.	368.
298	20.23	0.44	198.	248.	358	19.95	0.53	207.	282.	418	19.70	0.22	120.	324.	478	22.24	0.01	77.	369.
299	19.20	0.02	137.	249.	359	18.56	0.98	27.	283.	419	20.75	0.35	33.	325.	479	19.13	0.89	236.	371.
300	20.56	0.33	231.	249.	360	20.08	0.40	88.	284.	420	20.48	0.35	73.	326.	480	21.22	0.31	32.	371.

Table 13a : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.18	0.34	207.	372.	515	21.57	0.20	120.	397.	549	19.01	0.76	71.	429.	583	21.22	0.49	14.	463.
482	21.49	0.43	182.	373.	516	18.13	1.06	202.	399.	550	22.36	0.00	153.	429.	584	20.52	0.43	71.	463.
483	20.72	0.40	262.	373.	517	19.14	0.81	252.	399.	551	21.22	0.48	150.	432.	585	21.87	-0.28	275.	466.
484	18.87	1.06	112.	374.	518	20.38	0.42	145.	400.	552	20.83	0.34	77.	433.	586	19.18	0.88	224.	467.
485	20.45	0.45	146.	374.	519	21.53	0.62	182.	400.	553	20.69	0.51	278.	434.	587	21.52	0.48	180.	470.
486	20.91	0.45	46.	374.	520	20.31	1.02	71.	400.	554	20.53	0.44	61.	435.	588	20.73	0.73	273.	471.
487	18.30	0.84	118.	375.	521	18.08	0.69	23.	402.	555	22.25	0.27	114.	435.	589	20.29	0.26	243.	471.
488	19.17	0.89	107.	377.	522	19.20	0.88	212.	404.	556	21.69	0.47	111.	437.	590	21.06	0.58	164.	472.
489	21.69	0.48	23.	378.	523	21.08	0.77	182.	405.	557	21.23	0.45	177.	437.	591	20.47	0.40	201.	474.
490	20.93	0.36	298.	378.	524	21.52	0.43	142.	406.	558	21.60	0.63	146.	437.	592	20.86	0.61	132.	475.
491	21.64	0.46	74.	378.	525	20.66	0.60	30.	406.	559	20.91	0.45	67.	438.	593	18.11	1.07	146.	476.
492	21.70	0.47	148.	378.	526	21.55	0.50	246.	409.	560	19.39	0.91	196.	438.	594	21.64	0.47	196.	476.
493	21.99	0.44	158.	379.	527	21.42	0.37	196.	410.	561	20.68	0.32	45.	440.	595	21.06	0.51	168.	476.
494	21.52	0.52	145.	380.	528	19.12	0.89	267.	410.	562	20.44	1.03	133.	442.	596	21.38	0.66	39.	477.
495	20.34	0.38	107.	382.	529	21.89	-0.46	157.	410.	563	21.39	0.55	95.	443.	597	21.25	0.54	230.	482.
496	19.45	0.78	295.	383.	530	20.72	0.41	142.	411.	564	20.69	0.93	66.	443.	598	20.52	0.41	179.	482.
497	21.40	0.42	284.	384.	531	20.49	0.93	159.	411.	565	21.62	1.00	182.	443.	599	21.20	0.70	266.	486.
498	20.23	0.83	86.	384.	532	21.62	0.31	181.	412.	566	21.38	0.32	209.	445.	600	18.57	0.60	241.	486.
499	19.26	0.82	17.	384.	533	21.06	0.44	253.	413.	567	19.28	0.54	151.	446.	601	21.67	0.53	166.	486.
500	21.51	0.13	93.	384.	534	21.43	0.39	261.	417.	568	21.67	0.59	113.	446.	602	20.68	0.21	187.	488.
501	21.82	0.73	184.	385.	535	21.23	0.24	70.	419.	569	20.58	0.40	106.	448.	603	21.69	0.26	194.	488.
502	21.42	0.79	187.	385.	536	17.15	1.17	193.	421.	570	19.06	0.94	46.	448.	604	21.94	-0.08	140.	489.
503	20.62	0.51	148.	385.	537	21.21	0.44	224.	421.	571	20.02	1.04	78.	449.	605	18.97	0.95	99.	489.
504	20.64	0.76	23.	385.	538	21.34	0.44	79.	421.	572	21.48	0.40	113.	450.	606	20.85	1.00	113.	489.
505	19.10	0.92	122.	387.	539	22.45	0.46	19.	422.	573	21.43	0.93	255.	450.	607	21.27	0.48	172.	491.
506	21.93	0.31	82.	387.	540	21.05	0.38	292.	422.	574	21.01	0.49	88.	451.	608	21.08	0.34	245.	493.
507	21.43	0.13	136.	389.	541	21.40	0.63	217.	423.	575	21.06	0.52	116.	453.	609	21.50	0.69	148.	495.
508	21.25	0.58	197.	389.	542	22.07	0.62	19.	424.	576	21.66	0.53	257.	454.	610	21.61	0.68	234.	495.
509	21.28	0.37	93.	389.	543	19.09	0.86	243.	424.	577	19.13	0.98	224.	454.	611	20.76	0.45	167.	498.
510	21.83	0.44	76.	392.	544	21.52	0.63	41.	424.	578	21.37	0.44	76.	454.	612	21.47	0.52	223.	500.
511	19.87	0.88	174.	392.	545	21.22	0.52	266.	425.	579	18.03	1.14	209.	455.	613	21.03	0.47	152.	501.
512	21.39	0.32	154.	392.	546	20.91	0.61	291.	428.	580	21.34	1.03	34.	455.	614	21.61	0.41	111.	503.
513	20.91	0.48	90.	393.	547	19.86	0.75	118.	428.	581	22.23	0.46	32.	456.	615	20.90	0.58	189.	504.
514	18.00	1.03	114.	395.	548	18.72	1.09	26.	429.	582	19.13	0.84	92.	461.	616	21.26	0.43	93.	505.

Table 13b : Magnitudes, Colors and Positions of Stars in the field near NGC 2173.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.72	0.41	418	491	61	19.77	0.60	133	535	121	20.50	0.23	465	613	181	20.21	0.62	687	690
2	19.01	0.96	416	484	62	18.03	1.22	224	537	122	19.65	1.04	877	614	182	20.41	1.58	481	691
3	19.21	0.90	409	482	63	19.30	0.90	926	537	123	19.99	0.98	33	616	183	20.24	0.16	586	692
4	18.87	0.95	381	493	64	18.46	1.00	178	538	124	18.98	0.92	370	617	184	17.82	1.31	297	693
5	18.25	0.87	387	494	65	20.31	0.82	32	541	125	19.48	0.30	754	618	185	19.65	1.00	446	696
6	19.18	1.16	376	497	66	17.15	1.24	470	541	126	20.47	0.09	757	620	186	19.43	0.79	712	696
7	16.25	1.70	396	495	67	20.30	0.22	465	537	127	19.16	0.93	783	619	187	19 22	0.19	745	697
8	20.77	0.41	370	496	68	19.60	0.10	602	542	128	17.70	1.32	55	622	188	19.86	1.19	533	701
9	19.17	1.12	392	506	69	19.04	0.88	523	543	129	19.29	1.09	63	625	189	20.62	0.68	183	703
10	20.31	0.14	376	502	70	20.37	0.87	177	549	130	18.25	0.94	202	622	190	19.59	0.81	182	710
11	19.68	1.13	398	497	71	20.52	0.94	958	549	131	20.03	0.82	153	623	191	20.24	0.82	579	704
12	20.11	0.12	591	494	72	18.35	1.27	156	551	132	20.55	0.92	444	624	192	20.12	1.95	723	705
13	20.34	0.21	673	496	73	19.84	0.78	389	551	133	19.65	0.05	697	626	193	19.71	0.37	911	704
14	19.46	0.73	578	498	74	18.42	1.22	263	553	134	19.05	0.96	523	627	194	19.49	1.08	482	709
15	20.96	0.01	581	492	75	19.01	0.86	339	553	135	20.24	0.35	517	632	195	19.24	0.74	741	709
16	19.80	0.86	866	498	76	20.41	0.50	560	553	136	19.50	0.26	535	632	196	20.10	0.49	360	713
17	20.42	0.20	603	499	77	18.77	1.12	291	554	137	20.63	0.81	31	634	197	18.75	1.21	644	715
18	16.23	0.68	905	501	78	20.29	0.55	843	556	138	19.04	0.03	261	638	198	19.25	1.14	447	715
19	18.97	1.13	970	501	79	20.43	0.76	907	557	139	19.03	1.16	256	643	199	19.91	0.11	797	716
20	20.44	0.53	216	502	80	19.39	0.82	473	559	140	18.97	1.10	634	640	200	16.79	1.7	345	717
21	20.05	0.98	208	504	81	20.02	0.79	240	560	141	19.35	0.78	633	643	201	19.15	0.87	530	717
22	20.23	0.78	354	505	82	20.48	0.49	246	561	142	19.97	0.80	436	643	202	18.94	1.01	671	720
23	19.20	0.87	279	506	83	20.61	0.45	30	563	143	19.54	1.05	387	646	203	19.91	0.39	666	723
24	19.68	0.86	775	506	84	18.93	0.86	934	565	144	17.16	1.45	586	645	204	19.93	0.10	667	718
25	20.56	0.54	286	507	85	20.10	0.64	928	567	145	20.40	0.31	164	650	205	20.26	1.35	299	728
26	18.31	1.16	126	508	86	19.33	0.27	425	569	146	20.70	0.96	157	644	206	19.47	0.91	576	728
27	20.17	0.40	613	508	87	18.99	1.01	313	575	147	18.58	0.75	226	652	207	18.22	1.31	50	729
28	20.48	1.02	170	510	88	20.61	0.61	311	565	148	20.17	0.62	49	653	208	20.37	0.78	481	730
29	19.87	1.02	448	510	89	20.10	0.87	347	574	149	20.67	0.53	45	660	209	18.48	1.16	880	730
30	18.60	1.02	631	514	90	19.11	1.12	503	576	150	20.54	0.33	351	653	210	17.79	0.93	951	731
31	17.99	1.12	384	516	91	20.39	0.50	141	576	151	19.24	1.13	181	654	211	19.08	1.13	279	732
32	19.03	1.22	321	517	92	18.04	1.16	488	577	152	19.03	0.96	175	655	212	20.32	0.36	681	733
33	19.48	0.60	321	514	93	20.26	0.67	886	581	153	20.38	-0.01	171	651	213	19.38	1.12	525	734
34	19.14	0.81	532	515	94	19.31	0.89	243	583	154	19.13	0.86	510	654	214	18.79	0.95	668	735
35	18.23	1.07	479	517	95	19.18	0.95	615	584	155	19.20	0.82	823	657	215	20.59	0.79	983	737
36	19.05	0.78	474	518	96	19.21	0.82	193	585	156	19.82	0.66	942	659	216	18.95	0.96	690	739
37	17.48	1.16	611	519	97	20.58	1.02	187	588	157	18.98	0.81	492	661	217	19.13	0.78	615	741
38	20.44	0.55	417	520	98	20.13	0.46	213	584	158	19.88	0.79	134	663	218	19.17	0.91	557	744
39	19.68	0.19	252	522	99	19.15	0.95	363	587	159	18.28	1.12	430	663	219	19.49	1.07	826	750
40	20.49	1.23	338	522	100	18.27	1.14	793	587	160	19.78	0.50	351	667	220	20.69	0.76	986	751
41	20.72	0.28	811	522	101	19.17	0.93	503	590	161	20.16	0.75	197	667	221	19.24	0.91	280	752
42	20.71	0.20	441	524	102	20.58	0.45	340	590	162	19.26	0.97	331	668	222	19.00	0.94	276	755
43	19.24	0.96	489	522	103	20.59	0.28	556	591	163	19.22	0.94	456	671	223	17.60	1.22	733	754
44	20.52	0.62	219	524	104	19.41	0.09	885	592	164	20.25	0.57	701	673	224	20.36	1.02	724	756
45	20.07	0.95	795	524	105	20.26	0.31	524	594	165	20.21	1.29	854	674	225	16.67	1.89	53	758
46	20.70	0.76	203	525	106	18.99	1.15	116	595	166	19.38	1.70	905	674	226	14.84	0.55	42	769
47	20.43	0.33	200	529	107	20.64	0.10	768	596	167	20.35	1.01	108	675	227	16.94	1.49	45	781
48	20.62	0.54	239	524	108	20.53	0.45	927	597	168	19.47	1.01	794	675	228	19.44	1.03	300	766
49	17.15	1.39	881	525	109	18.47	1.05	212	597	169	19.57	1.20	686	676	229	20.51	0.22	690	768
50	19.44	1.72	878	515	110	20.23	0.52	479	598	170	19.43	0.77	151	679	230	20.40	0.78	523	773
51	18.05	0.67	286	526	111	18.11	1.07	420	601	171	18.69	1.12	750	679	231	20.18	0.95	580	775
52	19.13	0.80	549	527	112	19.80	0.09	51	603	172	19.33	0.92	870	679	232	19.03	0.96	711	775
53	20.62	0.50	65	529	113	19.78	0.36	737	602	173	19.96	0.26	248	680	233	19.08	0.89	248	776
54	20.33	0.28	390	531	114	20.03	1.22	677	606	174	16.12	1.53	306	680	234	20.18	1.23	723	776
55	19.58	0.99	432	531	115	20.65	0.32	456	607	175	18.63	0.16	369	680	235	19.16	1.06	866	777
56	19.07	0.75	436	535	116	18.99	0.78	522	610	176	20.61	0.41	127	681	236	20.71	0.70	229	781
57	20.72	0.97	444	532	117	19.37	0.26	523	608	177	20.76	0.27	131	683	237	19.39	0.98	589	782
58	20.26	0.23	440	535	118	20.33	0.28	813	609	178	14.07	1.07	887	684	238	18.20	0.71	609	784
59	19.22	0.88	44	531	119	19.97	1.05	815	614	179	18.00	1.30	164	688	239	18.74	-0.01	921	784
60	19.47	0.14	91	534	120	19.77	0.92	771	610	180	19.39	0.51	965	687	240	20.73	0.41	873	789

Table 13b : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	19.59	0.19	187	790	286	19.53	0.84	879	836	331	20.86	0.44	616	902	376	19.02	0.14	864	957
242	19.85	0.45	757	791	287	18.47	0.16	409	839	332	18.08	0.94	622	908	377	18.96	0.94	665	957
243	19.10	0.94	894	792	288	20.07	1.89	231	840	333	20.43	0.56	807	902	378	18.85	0.90	663	960
244	19.88	0.65	469	794	289	20.53	0.50	441	843	334	18.72	0.98	238	907	379	19.43	0.86	280	961
245	19.59	0.78	98	797	290	20.73	-0.04	446	844	335	19.39	0.84	357	907	380	18.77	1.25	353	961
246	16.69	1.20	794	797	291	19.05	1.23	628	844	336	19.98	0.97	36	908	381	19.51	1.05	702	962
247	19.88	0.49	798	803	292	19.09	0.10	196	845	337	20.40	0.84	73	909	382	19 12	0.99	246	962
248	19.99	1.07	793	808	293	19.60	1.60	267	855	338	19.90	0.91	116	908	383	18.93	0.32	216	963
249	19.74	0.22	963	797	294	20.45	0.21	336	858	339	19.36	1.03	752	909	384	19.79	0.92	882	964
250	20.22	1.42	323	798	295	20.00	0.53	543	858	340	19.00	0.05	497	912	385	19.94	0.90	83	965
251	18.93	1.09	749	798	296	20.55	0.77	531	856	341	19.51	0.81	611	912	386	20.61	0.97	73	972
252	19.53	0.31	741	801	297	20.29	0.79	222	859	342	19.32	0.74	691	913	387	18.98	0.75	58	966
253	20.67	1.10	814	800	298	20.42	0.84	607	860	343	19.35	0.86	698	914	388	18.99	0.67	411	967
254	20.10	0.69	702	802	299	19.01	1.01	476	863	344	17.95	1.29	144	914	389	18.81	1.23	153	969
255	19.06	1.00	158	803	300	19.62	0.05	756	865	345	18.70	0.97	338	914	390	18.05	1.64	140	974
256	20.57	0.67	721	807	301	17.97	1.17	770	866	346	19.27	0.78	554	915	391	19.23	0.05	140	991
257	20.58	0.34	37	808	302	18.96	1.10	217	870	347	20.54	1.05	92	916	392	19.71	1.11	174	1002
258	19.64	0.11	459	810	303	19.28	1.17	849	870	348	20.17	0.30	782	916	393	20.21	1.79	174	995
259	20.34	0.48	654	810	304	20.41	1.09	846	876	349	19.94	0.37	467	917	394	18.40	1.14	190	1014
260	20.09	0.31	821	810	305	18.91	1.07	863	870	350	20.43	1.56	219	919	395	19.14	0.96	179	1024
261	19.07	0.81	183	814	306	20.32	0.01	390	870	351	18.77	1.01	102	920	396	19.14	1.08	220	1019
262	17.80	1.48	358	814	307	19.18	0.14	426	872	352	19.10	0.88	529	921	397	19.22	0.10	241	1012
263	19.32	1.06	673	815	308	19.28	1.21	431	876	353	20.35	0.32	520	926	398	19.03	0.95	250	998
264	17.85	0.93	874	815	309	20.64	1.37	913	875	354	18.77	0.84	703	924	399	19.24	1.04	315	1007
265	19.42	0.15	449	816	310	20.45	0.44	260	877	355	20.17	0.73	393	925	400	20.32	0.81	340	975
266	19.37	0.97	233	817	311	19.23	0.76	255	884	356	18.79	0.48	396	930	401	17.90	0.08	414	997
267	19.11	0.93	799	817	312	19.36	0.83	336	878	357	19.10	0.88	396	936	402	19.47	0.97	412	990
268	20.83	0.31	790	827	313	20.10	1.74	233	879	358	20.48	0.34	213	928	403	16.98	1.54	455	1008
269	17.26	0.91	125	819	314	20.66	0.54	240	875	359	20.59	0.08	667	928	404	20.28	0.59	525	992
270	15.79	0.87	554	826	315	19.46	0.92	620	880	360	19.27	1.02	964	928	405	18.74	1.23	600	1015
271	20.53	0.75	723	827	316	19.26	1.02	31	883	361	19.29	0.80	364	931	406	19.17	0.87	641	988
272	20.45	0.51	260	827	317	19.82	1.13	147	884	362	19.99	1.04	406	931	407	20.32	0.34	666	993
273	19.61	0.78	254	830	318	16.63	0.87	954	883	363	19.34	0.89	819	937	408	20.36	0.44	682	984
274	19.90	0.12	255	826	319	18.78	1.00	514	885	364	20.58	0.48	670	940	409	16.71	0.74	706	986
275	20.07	1.28	252	828	320	17.80	1.13	882	886	365	19.19	0.12	465	943	410	19.54	0.80	705	973
276	20.59	1.13	442	829	321	19.85	1.01	830	895	366	17.47	0.70	520	946	411	19.88	0.19	720	990
277	19.35	0.96	385	831	322	18.81	0.75	677	896	367	20.43	1.14	926	947	412	18.83	0.06	733	1009
278	20.11	0.18	607	830	323	19.23	1.06	535	897	368	19.18	0.89	958	947	413	19.23	0.94	758	1023
279	19.51	0.74	903	831	324	20.36	0.30	538	905	369	19.27	0.21	903	948	414	19.42	0.74	779	1000
280	20.14	0.83	146	832	325	19.80	0.73	783	897	370	19.69	0.94	280	950	415	20.35	0.17	847	1010
281	19.67	0.95	822	832	326	20.31	0.99	90	898	371	19.07	0.88	458	948	416	17.80	1.19	857	1018
282	19.60	0.04	495	833	327	20.51	0.34	341	898	372	20.50	0.96	796	950	417	19.25	0.83	907	1005
283	19.76	0.81	465	835	328	19.02	1.29	131	899	373	15.62	0.88	605	950	418	19.00	0.92	902	1011
284	20.14	0.06	512	836	329	20.59	0.66	688	901	374	19.06	0.05	605	943	419	20.42	0.39	920	975
285	18.59	1.12	712	836	330	19.58	0.95	496	902	375	20.37	0.79	645	954	420	18.85	0.17	981	1022

Table 14 : Magnitudes, Colors and Positions of Stars in NGC 2190.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.67	0.24	150.	3.	61	22.22	0.37	107.	92.	121	21.68	0.23	16.	139.	181	20.84	0.14	174.	179.
2	19.20	0.90	284.	6.	62	20.62	0.04	-58.	92.	122	22.30	0.59	-96.	139.	182	21 45	0.70	26.	180.
3	20.65	0.24	189.	6.	63	21.17	0.33	94.	92.	123	19.99	0.22	216.	139.	183	18.47	0.01	116.	180.
4	19.94	0.88	-68.	6.	64	20.70	0.34	302.	93.	124	19.72	0.88	281.	142.	184	21.67	0.41	135.	180.
5	19.35	0.78	66.	8.	65	22.30	0.39	-48.	93.	125	21.02	0.20	106.	146.	185	21.64	0.34	-6.	181.
6	22.25	0.35	-107.	8.	66	20.67	0.41	-84.	94.	126	21.93	0.49	-25.	146.	186	19.85	0.16	282.	182.
7	20.91	0.23	71.	10.	67	21.53	0.64	64.	95.	127	20.91	1.09	86.	150.	187	19.73	0.23	114.	182.
8	22.45	0.48	52.	11.	68	21.59	0.50	27.	97.	128	22.75	0.33	-107.	150.	188	21.07	0.44	125.	184.
9	21.70	1.80	196.	12.	69	20.25	0.17	81.	97.	129	21.07	0.25	19.	151.	189	22.14	0.30	-107.	184.
10	22.39	0.35	189.	12.	70	14.55	0.89	236.	97.	130	20.75	0.27	93.	151.	190	21.76	0.46	21.	184.
11	21.07	1.60	-23.	13.	71	19.38	0.74	221.	98.	131	20.12	0.19	101.	152.	191	21.66	0.38	26.	185.
12	22.02	0.40	63.	14.	72	22.81	-0.14	-85.	99.	132	20.82	0.25	71.	152.	192	22.39	0.68	131.	185.
13	21.76	0.48	176.	15.	73	22.01	0.36	163.	101.	133	20.72	0.15	227.	152.	193	20.56	1.97	288.	187.
14	22.81	-0.10	-107.	15.	74	20.91	0.42	268.	101.	134	19.74	0.24	10.	153.	194	20.78	0.24	-86.	187.
15	22.21	0.34	199.	15.	75	20.39	0.21	183.	101.	135	22.16	0.43	79.	155.	195	19.92	0.20	181.	188.
16	21.19	0.31	36.	17.	76	20.94	0.28	89.	102.	136	21.78	0.33	20.	155.	196	19.91	0.72	290.	189.
17	23.34	1.00	-115.	19.	77	22.45	0.47	28.	104.	137	21.57	0.45	40.	156.	197	20.38	0.37	13.	189.
18	21.66	0.43	171.	20.	78	21.52	0.22	99.	106.	138	22.03	0.69	76.	157.	198	18.70	0.07	21.	191.
19	22.30	1.44	-40.	20.	79	20.57	0.26	36.	107.	139	19.42	0.83	137.	157.	199	20.69	0.11	200.	191.
20	21.28	0.32	104.	22.	80	22.11	0.63	94.	109.	140	20.67	0.20	193.	158.	200	22.26	0.31	-2.	192.
21	20.62	0.28	246.	27.	81	21.25	0.44	135.	111.	141	22.59	0.55	-104.	158.	201	19.40	0.93	14.	192.
22	22.64	0.69	-105.	29.	82	21.56	0.41	-72.	111.	142	22.07	0.06	21.	158.	202	18.88	0.72	147.	193.
23	22.06	0.56	70.	30.	83	22.38	0.50	111.	112.	143	21.97	0.43	-85.	158.	203	20.91	0.27	186.	194.
24	21.88	0.04	-106.	32.	84	21.65	0.80	178.	113.	144	20.06	0.23	178.	159.	204	20.42	0.19	-83.	194.
25	22.64	0.31	-24.	34.	85	20.00	0.25	155.	113.	145	21.08	0.47	167.	159.	205	21.49	0.25	32.	194.
26	19.18	0.89	233.	39.	86	21.91	0.42	44.	115.	146	21.33	0.26	109.	159.	206	19.59	0.79	239.	195.
27	19.01	0.94	298.	40.	87	22.84	0.25	41.	117.	147	20.97	-0.13	176.	159.	207	19.57	0.86	117.	195.
28	22.22	0.36	97.	41.	88	21.45	0.33	80.	117.	148	19.36	0.31	217.	160.	208	21.41	0.17	125.	196.
29	21.25	0.20	137.	41.	89	21.44	-0.20	-58.	118.	149	20.49	0.18	223.	160.	209	22.47	0.52	-116.	196.
30	22.38	0.43	189.	42.	90	19.30	0.83	-54.	118.	150	19.45	0.88	175.	160.	210	20.27	0.25	230.	197.
31	21.47	1.80	72.	44.	91	21.48	0.31	98.	119.	151	21.93	0.48	37.	161.	211	21.83	0.48	-54.	198.
32	18.97	0.76	-29.	45.	92	21.61	0.52	197.	119.	152	21.57	0.51	59.	162.	212	22.20	0.38	63.	198.
33	22.38	0.52	-104.	45.	93	21.68	0.34	86.	120.	153	19.80	0.27	311.	162.	213	21.94	0.44	95.	198.
34	21.85	0.60	123.	47.	94	21.15	0.26	-8.	120.	154	18.88	0.30	45.	163.	214	20.73	0.21	164.	200.
35	18.86	1.49	-96.	50.	95	19.56	0.83	190.	122.	155	21.13	0.19	-4.	163.	215	18.59	3.27	184.	201.
36	19.35	0.74	316.	51.	96	22.68	0.35	95.	123.	156	20.70	0.18	32.	164.	216	19.93	0.24	144.	201.
37	21.20	0.11	1.	51.	97	21.55	-0.14	41.	123.	157	18.99	0.75	-31.	164.	217	22.09	0.51	100.	201.
38	20.16	0.52	248.	52.	98	20.42	0.16	37.	124.	158	20.56	0.14	-72.	166.	218	21.11	0.28	90.	202.
39	19.37	0.89	128.	53.	99	20.45	0.17	162.	124.	159	22.53	0.01	148.	166.	219	21.36	0.45	190.	203.
40	20.44	0.29	147.	55.	100	22.59	1.87	52.	125.	160	22.62	0.33	-114.	167.	220	19.95	0.16	-19.	203.
41	22.40	0.34	87.	55.	101	19.47	1.06	301.	125.	161	20.79	0.51	-109.	167.	221	22.08	0.34	45.	204.
42	21.60	0.06	-95.	56.	102	19.18	0.95	278.	126.	162	21.63	0.57	84.	167.	222	20.02	1.38	116.	205.
43	19.98	0.24	112.	58.	103	21.09	0.49	-7.	126.	163	21.73	0.24	24.	169.	223	20.99	0.22	73.	205.
44	21.40	0.40	179.	64.	104	20.87	0.34	-56.	127.	164	19.63	0.78	160.	169.	224	19.61	0.13	130.	206.
45	18.98	0.95	-31.	67.	105	22.74	0.56	158.	127.	165	21.76	0.29	177.	170.	225	20.64	0.18	232.	206.
46	20.53	0.20	144.	67.	106	20.27	0.18	31.	128.	166	21.07	0.28	141.	172.	226	20.12	0.19	30.	207.
47	22.36	0.45	-10.	68.	107	21.32	0.22	102.	128.	167	20.63	0.34	320.	172.	227	20.80	0.31	120.	207.
48	20.87	0.50	44.	69.	108	21.19	0.19	61.	128.	168	19.91	0.20	-59.	172.	228	22.84	0.26	171.	207.
49	21.20	0.38	1.	72.	109	22.29	0.77	108.	128.	169	21.93	0.28	-85.	172.	229	20.59	0.39	129.	209.
50	21.64	0.28	155.	72.	110	22.29	0.36	25.	130.	170	21.19	0.34	99.	173.	230	20.87	0.17	52.	210.
51	20.82	0.81	126.	73.	111	19.62	0.16	201.	130.	171	19.52	0.86	288.	174.	231	19.77	0.19	178.	210.
52	22.26	0.44	-104.	73.	112	20.22	0.15	51.	131.	172	20.35	0.20	-113.	174.	232	21.55	0.26	97.	210.
53	22.22	-0.43	-59.	75.	113	21.59	0.25	-40.	131.	173	20.19	0.29	268.	174.	233	20.08	0.16	-16.	210.
54	22.44	0.34	-65.	80.	114	17.16	1.32	210.	132.	174	21.21	0.14	142.	175.	234	20.65	0.33	286.	212.
55	19.79	0.76	165.	80.	115	21.92	0.35	-110.	133.	175	21.92	0.76	15.	175.	235	19.74	0.86	168.	213.
56	20.44	1.24	140.	82.	116	22.34	0.61	-63.	133.	176	22.05	0.32	86.	175.	236	22.01	0.61	188.	213.
57	22.34	0.46	53.	84.	117	22.09	0.61	36.	133.	177	22.23	0.54	55.	176.	237	21.01	0.24	-68.	213.
58	20.56	0.25	210.	86.	118	21.92	0.12	159.	137.	178	22.51	0.31	36.	176.	238	20.79	0.30	163.	214.
59	21.20	0.24	3.	86.	119	21.78	0.29	-9.	137.	179	20.10	0.22	245.	177.	239	21.69	0.56	132.	215.
60	19.74	0.80	18.	88.	120	21.58	0.46	186.	137.	180	21.27	0.23	-116.	178.	240	20.35	0.24	125.	215.

Table 14 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	21.33	0.61	-91.	215.	301	22.16	0.98	109.	236.	361	20.18	0.28	62.	259.	421	20.83	0.26	104.	278.
242	21.76	0.30	95.	215.	302	19.58	0.84	163.	237.	362	19.08	0.86	126.	260.	422	19.43	0.82	159.	279.
243	21.02	0.26	223.	215.	303	22.17	0.69	196.	237.	363	19.73	0.15	51.	261.	423	20.60	0.21	127.	279.
244	21.79	0.37	-56.	215.	304	21.85	0.07	172.	238.	364	20.38	-0.01	248.	261.	424	21.10	0.35	108.	279.
245	22.11	0.25	-113.	215.	305	19.62	0.81	177.	238.	365	19.77	0.25	-67.	261.	425	20.43	0.58	-4.	279.
246	21.75	0.34	176.	215.	306	19.80	0.88	128.	238.	366	19.58	0.19	121.	261.	426	19.63	0.86	95.	280.
247	21.28	0.14	24.	216.	307	19.79	0.85	63.	239.	367	19.60	0.15	174.	262.	427	19.03	0.79	174.	281.
248	21.67	0.18	70.	216.	308	21.03	0.19	84.	240.	368	21.98	0.39	11.	262.	428	19.11	0.79	211.	281.
249	20.11	0.34	299.	216.	309	18.92	0.86	-117.	240.	369	20.86	0.27	221.	262.	429	18.95	0.88	156.	281.
250	21.16	0.27	120.	216.	310	20.90	0.20	130.	240.	370	21.53	0.26	92.	263.	430	19.88	0.19	295.	282.
251	20.28	0.22	271.	218.	311	22.12	0.45	69.	241.	371	18.96	0.83	79.	263.	431	20.11	0.18	113.	282.
252	21.32	0.24	64.	218.	312	21.86	0.54	192.	241.	372	18.96	1.24	156.	263.	432	20.18	-0.03	150.	282.
253	20.97	0.39	160.	218.	313	21.02	0.40	119.	242.	373	19.71	0.83	282.	263.	433	20.86	0.61	195.	282.
254	21.22	0.20	73.	219.	314	20.99	0.04	105.	243.	374	18.93	0.87	179.	263.	434	21.14	0.20	9.	283.
255	20.09	0.14	15.	219.	315	19.44	0.23	143.	243.	375	20.11	0.39	109.	264.	435	21.83	0.53	-31.	283.
256	21.77	0.28	174.	219.	316	20.31	0.31	40.	243.	376	19.81	0.18	85.	264.	436	19.06	0.88	131.	283.
257	20.53	0.20	223.	219.	317	21.84	0.51	184.	243.	377	19.55	1.20	109.	265.	437	20.54	0.35	142.	284.
258	21.88	0.64	132.	219.	318	19.86	0.31	234.	243.	378	20.77	0.11	257.	265.	438	19.14	0.84	152.	284.
259	21.10	0.41	115.	220.	319	19.13	0.21	198.	244.	379	21.05	-0.09	182.	266.	439	22.55	0.39	23.	284.
260	20.52	0.14	211.	220.	320	21.56	0.42	99.	244.	380	19.51	1.00	166.	266.	440	19.43	0.89	107.	284.
261	20.34	0.12	131.	221.	321	21.01	0.07	138.	244.	381	19.23	0.21	129.	266.	441	19.33	0.29	147.	285.
262	19.18	0.60	126.	222.	322	20.34	0.18	225.	244.	382	21.03	0.41	96.	267.	442	18.06	0.94	185.	285.
263	20.96	0.34	228.	224.	323	21.80	0.51	129.	245.	383	18.86	0.64	-5.	267.	443	19.58	0.21	212.	285.
264	21.60	0.65	13.	224.	324	21.41	0.46	123.	246.	384	16.46	1.54	189.	267.	444	20.08	0.43	169.	285.
265	22.16	0.63	196.	224.	325	18.39	1.00	109.	246.	385	19.89	0.16	-61.	267.	445	21.93	2.03	-26.	285.
266	22.08	0.98	184.	225.	326	20.61	0.25	161.	246.	386	18.10	1.17	127.	268.	446	19.27	0.16	50.	285.
267	21.53	0.34	55.	225.	327	20.63	0.18	194.	247.	387	20.06	0.11	111.	268.	447	19.24	0.90	224.	285.
268	21.21	0.21	74.	225.	328	19.43	0.94	45.	248.	388	22.15	0.60	103.	268.	448	19.61	0.25	155.	285.
269	20.22	0.19	154.	226.	329	19.71	0.81	93.	248.	389	22.44	0.56	45.	269.	449	19.15	0.18	167.	286.
270	22.02	0.47	-24.	226.	330	19.92	0.30	101.	248.	390	19.63	0.80	23.	269.	450	20.47	0.19	207.	286.
271	19.69	0.19	121.	227.	331	20.89	0.38	186.	249.	391	20.96	0.40	91.	269.	451	22.31	1.67	90.	286.
272	22.23	-0.26	183.	227.	332	22.00	0.31	-72.	249.	392	18.28	1.02	195.	270.	452	21.01	0.27	217.	286.
273	20.73	0.14	100.	227.	333	19.92	0.22	248.	249.	393	21.87	0.31	107.	271.	453	19.32	0.15	151.	287.
274	21.04	0.34	103.	228.	334	22.44	0.31	-86.	250.	394	20.23	0.03	218.	271.	454	19.65	0.90	191.	287.
275	19.75	0.29	275.	228.	335	22.11	0.49	57.	251.	395	20.29	0.24	207.	271.	455	18.91	0.27	179.	287.
276	19.82	0.86	142.	229.	336	19.27	0.86	155.	251.	396	22.87	3.62	76.	271.	456	16.98	1.60	44.	287.
277	20.31	0.17	117.	229.	337	19.98	0.25	178.	251.	397	20.26	0.11	131.	271.	457	20.73	0.13	30.	287.
278	20.97	0.43	-45.	229.	338	22.62	0.48	130.	252.	398	19.19	0.92	135.	271.	458	21.35	0.70	-42.	288.
279	19.96	0.28	125.	229.	339	20.75	0.18	3.	252.	399	19.52	0.90	223.	272.	459	19.39	0.45	203.	288.
280	19.80	0.90	223.	229.	340	19.86	0.90	88.	252.	400	20.34	0.14	83.	272.	460	19.94	0.13	131.	288.
281	19.88	0.19	243.	230.	341	19.26	0.88	223.	253.	401	19.94	0.14	-38.	272.	461	17.24	1.25	136.	289.
282	20.22	0.20	188.	230.	342	22.52	0.67	73.	254.	402	20.56	0.09	209.	273.	462	18.63	0.51	187.	289.
283	19.33	0.90	310.	230.	343	20.15	0.27	103.	254.	403	20.12	0.17	-7.	273.	463	22.41	0.55	122.	289.
284	19.85	0.36	144.	230.	344	20.83	0.15	171.	254.	404	22.17	0.54	-16.	274.	464	22.08	0.42	118.	289.
285	22.40	0.34	-7.	230.	345	19.88	0.33	179.	255.	405	20.39	0.34	155.	274.	465	22.50	0.47	11.	289.
286	20.58	0.22	234.	231.	346	20.57	0.40	163.	255.	406	20.81	0.24	224.	274.	466	20.67	0.23	-95.	290.
287	19.95	0.14	213.	231.	347	20.16	0.31	52.	255.	407	20.59	0.28	191.	274.	467	21.94	0.86	77.	290.
288	20.61	0.31	133.	232.	348	20.58	0.14	155.	255.	408	20.06	0.20	131.	275.	468	22.20	1.57	58.	290.
289	21.88	0.49	93.	232.	349	21.19	0.25	98.	255.	409	19.87	0.23	183.	276.	469	19.26	0.21	151.	290.
290	20.96	0.32	167.	233.	350	20.64	0.17	-41.	255.	410	18.52	1.00	119.	276.	470	21.87	0.48	97.	290.
291	21.28	0.13	-43.	233.	351	19.80	0.17	241.	256.	411	20.09	0.16	87.	276.	471	21.60	0.24	111.	291.
292	19.00	0.82	-49.	233.	352	20.40	0.41	315.	256.	412	21.81	0.36	-32.	276.	472	19.35	0.17	39.	291.
293	19.74	0.81	230.	233.	353	19.39	0.84	137.	257.	413	21.01	0.16	231.	276.	473	20.22	0.17	176.	291.
294	20.63	0.29	241.	234.	354	19.41	0.94	96.	258.	414	19.08	0.94	174.	277.	474	19.58	0.78	180.	291.
295	22.31	0.64	-27.	234.	355	20.50	0.49	51.	258.	415	19.55	0.85	224.	277.	475	20.40	0.52	172.	292.
296	18.93	0.55	101.	234.	356	19.81	0.87	161.	258.	416	21.24	0.28	193.	278.	476	20.34	0.08	91.	292.
297	22.09	0.56	-17.	235.	357	19.57	0.16	178.	259.	417	20.33	0.26	151.	278.	477	20.81	0.95	-67.	292.
298	18.70	0.77	187.	235.	358	20.05	0.20	188.	259.	418	21.30	0.59	-12.	278.	478	22.50	0.45	120.	293.
299	20.92	0.17	46.	235.	359	22.39	0.83	44.	259.	419	19.74	0.77	114.	278.	479	20.11	0.31	167.	293.
300	20.64	-0.05	98.	236.	360	20.35	0.14	225.	259.	420	21.73	0.97	46.	278.	480	18.66	0.55	136.	293.

Table 14 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	19.71	0.23	142.	293.	541	18.98	0.17	144.	307.	601	18.47	0.97	120.	320.	661	20.51	0.17	214.	335.
482	19.59	0.47	224.	293.	542	20.01	0.35	162.	307.	602	20.47	0.12	-95.	320.	662	18.98	0.86	220.	335.
483	18.32	0.71	150.	294.	543	19.94	0.32	130.	308.	603	20.97	0.24	83.	321.	663	22.24	0.93	-103.	336.
484	20.03	0.21	259.	294.	544	19.59	0.34	101.	308.	604	20.16	0.20	232.	321.	664	19.77	0.14	183.	336.
485	19.40	1.03	64.	294.	545	20.20	0.71	75.	308.	605	20.27	0.81	139.	322.	665	20.49	0.28	-12.	337.
486	19.26	0.86	19.	294.	546	20.54	0.10	126.	308.	606	19.46	0.53	208.	322.	666	19.52	0.93	41.	337.
487	21.38	0.69	74.	295.	547	20.32	0.24	171.	309.	607	19.58	0.24	191.	322.	667	20.09	0.35	191.	338.
488	19.80	0.05	58.	296.	548	19.51	0.82	212.	309.	608	19.44	0.88	228.	322.	668	22.01	0.55	-96.	338.
489	18.83	0.40	160.	296.	549	20.24	0.17	225.	309.	609	19.09	0.26	149.	322.	669	20.20	0.20	151.	338.
490	19.04	0.80	317.	296.	550	18.10	1.05	100.	309.	610	18.97	0.76	177.	323.	670	18.45	0.66	165.	338.
491	17.93	0.98	140.	296.	551	22.42	0.41	-31.	309.	611	20.28	0.25	258.	323.	671	19.69	0.21	251.	338.
492	18.25	0.33	151.	296.	552	19.81	0.52	245.	309.	612	19.77	0.92	77.	323.	672	19.99	0.26	202.	338.
493	20.43	0.21	212.	296.	553	19.57	1.00	113.	310.	613	19.09	0.22	170.	323.	673	20.15	0.23	130.	338.
494	16.75	0.61	64.	296.	554	21.93	0.27	107.	310.	614	19.82	0.46	207.	323.	674	19.88	-0.08	176.	339.
495	19.10	0.81	94.	296.	555	19.88	0.23	152.	310.	615	18.34	0.94	138.	324.	675	20.61	-0.08	219.	339.
496	19.14	0.72	157.	297.	556	20.02	0.23	195.	311.	616	18.94	0.74	163.	324.	676	18.47	0.46	187.	339.
497	18.82	0.34	165.	297.	557	21.18	0.22	135.	311.	617	19.23	0.88	-12.	324.	677	19.47	0.85	69.	339.
498	19.49	0.25	175.	298.	558	19.90	0.26	183.	311.	618	19.28	0.17	125.	324.	678	20.00	0.15	180.	339.
499	18.86	0.74	137.	298.	559	20.15	0.29	50.	311.	619	21.87	0.31	60.	325.	679	21.05	0.20	25.	339.
500	21.01	0.23	104.	298.	560	19.66	0.32	160.	311.	620	19.72	0.84	36.	325.	680	18.73	0.62	143.	339.
501	19.49	1.09	276.	299.	561	20.50	0.09	168.	312.	621	20.67	0.32	309.	325.	681	20.85	0.46	115.	340.
502	21.07	0.43	44.	299.	562	19.82	0.98	238.	312.	622	19.13	0.82	249.	325.	682	20.11	0.30	199.	340.
503	19.64	0.26	187.	299.	563	19.89	0.23	44.	313.	623	22.66	0.56	51.	326.	683	20.71	0.42	252.	341.
504	19.16	0.72	165.	299.	564	20.09	0.16	111.	313.	624	19.09	0.91	136.	326.	684	21.37	0.26	5.	341.
505	22.60	1.06	72.	300.	565	20.06	0.19	172.	313.	625	17.98	1.15	145.	327.	685	20.86	0.35	91.	341.
506	19.15	0.63	153.	300.	566	18.96	0.86	96.	314.	626	18.50	1.01	147.	327.	686	20.33	0.08	169.	341.
507	19.47	0.92	159.	300.	567	17.72	1.12	122.	314.	627	19.83	0.23	117.	328.	687	19.66	0.22	190.	342.
508	19.72	0.22	-72.	300.	568	20.01	0.18	179.	314.	628	20.95	0.29	158.	328.	688	20.31	0.20	223.	342.
509	21.82	0.59	113.	300.	569	20.85	0.34	-14.	314.	629	18.24	1.01	76.	328.	689	20.43	0.22	-16.	342.
510	19.00	0.78	172.	300.	570	20.15	0.18	-99.	314.	630	20.14	-0.05	150.	328.	690	18.75	0.61	151.	343.
511	20.92	0.25	213.	301.	571	21.61	0.55	89.	315.	631	19.26	0.83	64.	328.	691	19.47	0.86	112.	343.
512	19.44	0.90	200.	301.	572	18.77	1.41	24.	315.	632	20.85	0.25	-73.	328.	692	20.20	0.18	193.	344.
513	19.75	0.24	123.	301.	573	20.29	0.82	264.	315.	633	20.74	0.28	230.	328.	693	19.18	0.74	148.	344.
514	20.09	0.81	301.	301.	574	20.62	-0.04	262.	316.	634	20.67	0.25	-80.	329.	694	21.84	1.25	51.	345.
515	21.02	0.17	94.	301.	575	20.72	-0.04	107.	316.	635	18.94	0.07	186.	329.	695	21.38	0.29	-27.	345.
516	20.32	0.20	-94.	302.	576	19.39	0.73	189.	316.	636	21.81	0.22	26.	329.	696	19.85	0.23	179.	346.
517	19.47	0.27	145.	302.	577	19.20	0.75	192.	316.	637	21.03	0.63	54.	330.	697	22.76	0.35	42.	346.
518	18.97	0.63	181.	302.	578	19.93	0.25	84.	316.	638	19.21	0.77	166.	330.	698	18.79	0.92	150.	346.
519	20.58	0.18	-36.	302.	579	19.68	0.47	157.	316.	639	19.17	0.92	152.	330.	699	21.15	0.52	33.	346.
520	22.12	0.41	79.	302.	580	20.67	0.22	289.	317.	640	20.71	0.17	-39.	330.	700	22.55	0.26	100.	346.
521	19.21	0.84	147.	302.	581	19.53	0.28	175.	317.	641	20.14	0.21	240.	331.	701	22.07	0.34	97.	346.
522	19.60	0.24	37.	303.	582	19.53	0.62	148.	317.	642	20.26	0.14	207.	331.	702	19.19	0.94	135.	346.
523	19.19	0.72	151.	303.	583	19.07	0.82	275.	317.	643	18.93	0.80	122.	331.	703	22.30	0.37	-56.	347.
524	20.27	0.25	28.	303.	584	19.36	0.92	97.	317.	644	18.39	0.87	111.	331.	704	20.21	0.25	185.	347.
525	18.98	0.39	176.	303.	585	18.94	0.99	151.	318.	645	22.43	0.62	-58.	331.	705	20.96	0.16	-86.	348.
526	18.81	0.86	184.	304.	586	19.79	0.93	109.	318.	646	19.70	1.26	138.	332.	706	19.09	0.87	-10.	348.
527	18.74	0.34	226.	304.	587	20.77	0.43	113.	319.	647	17.67	1.36	141.	332.	707	20.92	0.43	175.	349.
528	17.67	1.16	192.	304.	588	20.36	0.38	231.	319.	648	18.15	0.81	97.	332.	708	19.74	0.88	128.	349.
529	19.46	0.30	160.	304.	589	19.80	0.25	282.	319.	649	19.62	0.47	221.	332.	709	20.88	0.17	110.	350.
530	20.35	0.20	295.	305.	590	20.21	0.64	99.	319.	650	21.13	-0.23	86.	333.	710	20.40	0.25	146.	350.
531	19.67	0.17	96.	305.	591	19.63	0.22	158.	319.	651	20.0[illegible]	0.28	77.	333.	711	19.32	0.18	192.	350.
532	19.78	0.87	49.	305.	592	21.19	0.27	-42.	319.	652	19.75	0.30	171.	333.	712	22.31	0.59	102.	350.
533	21.11	-0.18	121.	305.	593	19.92	0.51	189.	319.	653	19.40	0.75	131.	333.	713	20.13	0.25	265.	350.
534	19.30	0.54	246.	305.	594	21.31	-0.22	93.	319.	654	20.68	0.22	116.	333.	714	20.15	0.22	155.	350.
535	19.83	0.14	27.	305.	595	20.07	0.34	311.	319.	655	21.04	0.19	-22.	333.	715	20.39	0.12	185.	350.
536	20.06	0.17	220.	306.	596	21.40	0.32	52.	320.	656	21.05	0.23	-116.	334.	716	19.42	0.25	57.	350.
537	22.06	0.22	2.	306.	597	18.98	0.23	125.	320.	657	18.33	0.99	89.	334.	717	21.64	0.28	116.	350.
538	19.62	0.56	155.	306.	598	20.95	0.49	236.	320.	658	22.44	0.60	-34.	334.	718	19.43	0.87	131.	350.
539	21.92	0.41	89.	307.	599	18.71	0.73	96.	320.	659	19.25	0.85	198.	335.	719	20.75	0.20	-46.	351.
540	19.16	0.95	114.	307.	600	20.70	0.39	133.	320.	660	20.26	0.45	97.	335.	720	20.90	0.19	112.	351.

Table 14 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	19.85	0.32	171.	351.	781	20.20	0.19	147.	371.	841	16.34	0.74	313.	400.	901	17.59	1.13	40.	436.
722	20.02	0.25	198.	351.	782	22.06	0.27	14.	371.	842	20.86	0.28	123.	400.	902	22.74	0.36	96.	436.
723	21.15	0.23	119.	353.	783	16.80	0.73	113.	371.	843	22.38	0.35	-12.	401.	903	21.72	0.37	-30.	437.
724	19.25	0.24	160.	353.	784	20.77	0.35	192.	372.	844	20.39	0.18	33.	402.	904	21.99	1.15	87.	437.
725	19.16	0.68	173.	353.	785	21.31	0.72	102.	372.	845	21.82	0.43	-64.	402.	905	20.96	0.19	-60.	437.
726	21.30	0.36	82.	354.	786	20.50	0.21	179.	372.	846	22.72	0.73	13.	402.	906	20.49	0.57	160.	442.
727	22.60	0.85	100.	354.	787	21.84	0.17	187.	373.	847	19.91	0.30	26.	402.	907	19.58	0.20	136.	444.
728	21.97	0.23	39.	354.	788	21.65	0.62	124.	373.	848	20.97	0.47	112.	402.	908	22.28	0.99	41.	444.
729	19.47	0.83	198.	354.	789	22.30	0.26	84.	373.	849	20.44	0.04	26.	404.	909	18.73	0.64	104.	445.
730	21.53	0.35	-107.	355.	790	22.48	0.37	-115.	374.	850	19.82	0.90	141.	404.	910	22.30	1.13	92.	447.
731	19.64	0.91	258.	355.	791	22.23	0.80	-74.	375.	851	21.05	0.24	-87.	405.	911	21.45	0.81	117.	448.
732	19.96	0.29	170.	355.	792	21.54	0.31	132.	375.	852	22.15	0.42	48.	405.	912	20.35	0.91	230.	450.
733	21.39	0.24	-25.	356.	793	22.04	0.77	-37.	375.	853	21.52	0.54	118.	406.	913	21.18	0.24	192.	451.
734	20.35	0.28	169.	356.	794	22.53	0.41	167.	376.	854	22.57	0.48	18.	407.	914	20.08	0.18	118.	456.
735	22.10	0.38	-50.	356.	795	19.79	0.21	183.	377.	855	20.25	0.22	129.	408.	915	22.45	0.63	28.	456.
736	21.37	0.92	137.	356.	796	21.55	0.32	137.	377.	856	20.69	0.21	195.	408.	916	21.47	0.39	-31.	457.
737	19.57	0.90	126.	356.	797	19.67	0.93	100.	379.	857	20.32	0.16	92.	408.	917	21.12	0.20	-109.	457.
738	19.03	0.89	211.	357.	798	20.12	0.39	90.	380.	858	19.85	0.25	151.	409.	918	22.34	0.53	177.	457.
739	20.91	0.38	172.	357.	799	22.26	0.37	83.	380.	859	20.52	0.18	198.	410.	919	22.42	-0.17	110.	458.
740	21.87	0.22	74.	358.	800	22.18	2.05	117.	381.	860	22.31	0.52	190.	410.	920	19.29	0.89	140.	459.
741	19.49	0.68	188.	358.	801	20.53	0.00	91.	382.	861	19.83	1.01	226.	411.	921	16.47	2.62	201.	461.
742	21.63	0.71	-32.	358.	802	20.48	0.86	-7.	382.	862	20.41	0.13	221.	411.	922	19.61	1.59	252.	462.
743	18.88	0.82	205.	359.	803	20.03	0.20	189.	382.	863	20.52	0.28	184.	412.	923	22.17	0.39	51.	463.
744	21.14	0.47	190.	360.	804	21.61	0.54	-58.	383.	864	18.15	1.16	27.	413.	924	19.72	0.59	-113.	463.
745	18.93	0.88	179.	360.	805	20.50	0.38	-63.	383.	865	21.59	0.31	-8.	414.	925	21.37	0.17	184.	465.
746	20.41	0.21	256.	360.	806	22.55	0.42	-37.	384.	866	22.35	1.32	111.	415.	926	19.05	0.99	-52.	465.
747	21.60	0.44	-10.	360.	807	22.21	0.47	72.	384.	867	22.65	1.70	117.	415.	927	22.19	0.50	126.	466.
748	20.74	0.19	90.	360.	808	20.43	0.22	161.	384.	868	19.83	0.21	16.	416.	928	20.08	0.18	158.	467.
749	19.22	0.99	312.	360.	809	19.18	0.85	25.	385.	869	21.33	0.29	172.	416.	929	20.06	0.17	174.	467.
750	20.01	0.11	155.	361.	810	21.25	0.61	181.	385.	870	21.03	0.16	49.	417.	930	22.36	0.59	126.	468.
751	20.65	0.25	95.	361.	811	19.61	0.89	266.	385.	871	18.27	0.70	2.	418.	931	21.87	0.55	121.	468.
752	19.23	0.24	132.	362.	812	20.20	0.22	123.	386.	872	22.39	-0.24	186.	418.	932	22.39	1.68	-45.	469.
753	22.25	0.61	1.	362.	813	21.43	0.22	190.	386.	873	18.47	0.95	124.	418.	933	20.54	0.27	71.	469.
754	16.30	1.61	59.	362.	814	19.96	1.61	249.	387.	874	22.42	0.34	-40.	419.	934	22.51	0.29	21.	471.
755	21.64	0.32	-12.	363.	815	20.37	0.29	193.	387.	875	19.36	0.84	191.	419.	935	21.45	0.45	195.	471.
756	19.39	0.90	158.	363.	816	19.19	0.66	92.	388.	876	19.90	0.24	180.	420.	936	20.19	0.25	113.	472.
757	20.45	0.09	135.	363.	817	21.71	0.39	79.	389.	877	19.74	0.84	88.	421.	937	20.98	0.08	69.	473.
758	20.92	0.39	224.	363.	818	19.08	0.90	-72.	389.	878	19.11	0.83	8.	422.	938	20.71	0.37	159.	474.
759	21.12	0.34	111.	363.	819	19.44	0.91	163.	389.	879	22.01	0.34	64.	423.	939	21.91	0.38	24.	474.
760	21.64	0.15	80.	364.	820	20.00	0.24	106.	389.	880	21.82	2.01	26.	424.	940	21.67	0.52	167.	474.
761	20.52	0.25	-109.	364.	821	19.73	0.85	242.	389.	881	20.30	0.16	171.	424.	941	20.83	0.26	-74.	474.
762	21.18	0.25	209.	364.	822	21.66	0.39	118.	389.	882	20.26	0.19	226.	425.	942	22.01	0.39	-108.	474.
763	20.09	0.23	151.	365.	823	19.74	0.79	141.	390.	883	21.36	0.28	198.	426.	943	21.05	0.28	88.	475.
764	22.49	0.42	91.	366.	824	20.55	0.48	177.	391.	884	23.10	0.23	95.	427.	944	21.54	0.32	0.	477.
765	21.08	0.45	25.	366.	825	20.12	0.14	207.	391.	885	22.30	0.50	74.	427.	945	22.47	0.36	30.	478.
766	20.00	0.11	225.	366.	826	20.56	0.50	175.	392.	886	22.56	0.79	83.	428.	946	20.44	0.26	-36.	479
767	20.74	0.25	201.	366.	827	22.62	0.55	-112.	393.	887	21.58	0.42	189.	430.	947	20.92	-0.47	-118.	479.
768	20.62	0.31	135.	367.	828	18.76	0.97	173.	394.	888	22.63	0.12	94.	430.	948	19.17	0.55	66.	480.
769	19.42	0.87	117.	367.	829	22.01	0.59	35.	394.	889	21.92	0.38	125.	430.	949	20.92	0.22	162.	480.
770	20.52	0.52	312.	368.	830	19.01	-0.05	116.	394.	890	21.78	0.79	31.	430.	950	20.95	0.36	-5.	480.
771	20.32	0.84	239.	368.	831	22.35	1.01	29.	395.	891	20.29	0.24	203.	431.	951	21.68	0.25	-81.	483.
772	21.45	0.79	50.	368.	832	21.98	0.55	162.	395.	892	22.50	0.34	51.	431.	952	21.91	0.46	31.	483.
773	18.73	0.97	161.	368.	833	20.62	0.31	166.	397.	893	19.14	0.86	-92.	431.	953	19.16	0.84	246.	484.
774	20.75	0.24	264.	369.	834	22.04	0.27	-117.	397.	894	20.79	0.38	-34.	431.	954	20.65	0.18	192.	485.
775	22.34	0.64	96.	369.	835	21.55	1.63	-56.	397.	895	21.58	1.67	0.	432.	955	20.38	0.83	200.	487.
776	21.68	0.32	-1.	369.	836	20.56	0.38	153.	398.	896	19.48	0.21	170.	433.	956	19.43	0.85	82.	487.
777	20.06	0.10	204.	369.	837	22.61	0.50	-72.	398.	897	19.74	0.16	279.	434.	957	20.76	0.24	168.	487.
778	21.55	0.09	107.	370.	838	20.07	0.21	49.	399.	898	21.94	0.38	162.	434.	958	20.85	0.45	72.	490.
779	20.51	0.28	174.	370.	839	20.76	0.29	185.	400.	899	22.10	0.96	31.	435.	959	20.29	0.18	130.	490.
780	20.41	0.20	72.	371.	840	19.69	0.19	65.	400.	900	19.41	0.85	228.	436.	960	22.46	0.63	47.	491.

Table 14 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	22.73	0.32	130.	496.	964	20.65	0.25	275.	502.	967	21.34	0.78	62.	506.	970	19.29	0.80	103.	506.
962	22.14	0.98	-10.	499.	965	21.76	0.43	-61.	505.	968	21.06	0.32	3.	507.	971	21.28	0.80	-80.	511.
963	18.58	0.82	190.	501.	966	22.27	0.35	58.	505.	969	22.54	0.47	-72.	508.					

Table 15 : Magnitudes, Colors and Positions of Stars in NGC 2209.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	16.76	0.59	165.	11.	61	22.26	0.55	140.	80.	121	21.88	0.64	205.	120.	181	21.63	0.37	47.	157.
2	20.36	0.88	28.	15.	62	22.53	0.62	135.	82.	122	20.52	0.35	42.	120.	182	21.62	0.40	52.	158.
3	22.20	0.48	31.	17.	63	21.98	0.48	227.	82.	123	21.45	0.25	297.	120.	183	20.68	0.35	308.	158.
4	21.60	0.46	185.	20.	64	19.60	1.03	65.	83.	124	20.19	0.41	117.	120.	184	21.05	0.30	261.	158.
5	21.71	0.25	49.	22.	65	16.48	1.52	203.	84.	125	21.94	0.69	287.	120.	185	21.37	0.31	189.	159.
6	19.94	0.28	254.	29.	66	19.71	0.88	223.	85.	126	21.75	0.66	314.	121.	186	23.05	0.46	90.	159.
7	21.07	0.31	182.	30.	67	21.50	0.38	47.	86.	127	20.26	0.44	258.	121.	187	21.05	0.40	130.	159.
8	19.30	0.93	290.	32.	68	21.40	0.38	132.	87.	128	21.16	1.02	298.	123.	188	21.59	0.36	27.	159.
9	21.55	0.49	213.	32.	69	21.07	0.28	152.	89.	129	21.36	0.26	242.	124.	189	21.05	0.59	62.	159.
10	21.14	0.36	48.	32.	70	20.99	0.36	244.	90.	130	21.59	0.32	272.	124.	190	20.10	0.28	183.	160.
11	22.21	0.74	257.	34.	71	20.73	0.21	118.	90.	131	21.04	0.23	241.	127.	191	21.49	0.35	237.	160.
12	21.29	0.33	24.	34.	72	20.49	0.21	112.	90.	132	21.37	0.30	303.	127.	192	19.61	0.86	260.	160.
13	21.46	0.47	164.	35.	73	20.18	0.21	173.	90.	133	22.34	0.51	185.	128.	193	21.80	0.29	31.	160.
14	21.01	0.33	266.	35.	74	21.96	0.58	75.	91.	134	21.19	0.34	243.	128.	194	19.79	0.24	176.	160.
15	20.23	1.51	117.	36.	75	21.77	0.35	131.	92.	135	20.57	0.39	150.	129.	195	21.19	0.60	140.	161.
16	20.74	0.26	230.	36.	76	21.38	0.37	227.	93.	136	21.36	0.39	48.	131.	196	20.89	0.44	144.	162.
17	22.15	0.44	224.	36.	77	20.86	0.42	188.	93.	137	21.56	0.39	243.	132.	197	21.83	0.32	249.	162.
18	22.32	0.83	169.	38.	78	20.95	0.31	201.	94.	138	21.32	0.40	70.	133.	198	21.20	0.39	89.	163.
19	21.19	0.25	285.	38.	79	19.73	0.88	174.	95.	139	20.65	0.42	154.	133.	199	21.23	0.42	184.	163.
20	21.32	0.29	151.	39.	80	20.63	0.33	168.	95.	140	21.32	1.41	107.	133.	200	21.46	0.20	10.	163.
21	20.02	0.37	147.	40.	81	20.88	0.29	271.	95.	141	22.11	0.65	268.	134.	201	21.35	0.48	249.	164.
22	21.63	0.59	247.	40.	82	20.20	0.25	66.	97.	142	22.60	0.52	137.	134.	202	20.51	0.28	227.	165.
23	21.26	0.35	222.	41.	83	21.58	0.25	301.	99.	143	21.22	0.33	131.	136.	203	20.46	0.28	172.	165.
24	20.20	0.37	110.	41.	84	20.81	0.33	172.	99.	144	20.56	0.30	304.	136.	204	20.16	0.35	98.	165.
25	20.00	0.23	279.	42.	85	22.54	0.77	195.	100.	145	21.64	0.25	273.	136.	205	21.09	0.27	207.	165.
26	20.93	0.47	232.	43.	86	19.52	0.88	265.	100.	146	21.92	0.38	231.	137.	206	21.86	0.62	120.	165.
27	21.59	0.42	126.	44.	87	20.77	0.41	150.	100.	147	22.93	0.71	67.	139.	207	19.82	0.29	80.	165.
28	22.52	0.46	241.	46.	88	22.66	0.71	197.	102.	148	21.57	0.38	167.	139.	208	19.33	0.98	125.	166.
29	20.90	0.33	269.	47.	89	20.60	0.22	160.	104.	149	21.84	0.51	22.	139.	209	20.40	0.23	13.	167.
30	21.77	0.36	234.	48.	90	22.44	0.77	223.	104.	150	21.66	0.39	152.	140.	210	19.70	0.95	130.	167.
31	21.52	1.69	282.	48.	91	20.42	0.24	137.	105.	151	22.31	0.46	230.	140.	211	20.65	0.38	302.	167.
32	19.91	0.90	198.	49.	92	21.34	0.95	49.	106.	152	20.01	0.24	224.	140.	212	21.26	0.27	242.	168.
33	21.11	0.29	307.	50.	93	19.89	0.32	156.	106.	153	20.65	0.26	114.	140.	213	20.21	0.29	230.	168.
34	20.56	0.37	227.	50.	94	21.25	0.33	120.	106.	154	20.39	0.27	221.	143.	214	21.00	0.26	201.	168.
35	21.11	0.84	112.	53.	95	20.43	0.34	158.	108.	155	20.70	0.31	174.	144.	215	21.50	0.25	261.	168.
36	20.22	0.32	227.	55.	96	20.03	0.29	88.	108.	156	21.49	0.59	226.	144.	216	20.15	0.33	159.	169.
37	20.72	0.41	200.	57.	97	19.78	0.84	213.	108.	157	21.29	0.13	122.	145.	217	19.10	0.81	18.	169.
38	20.80	0.69	257.	58.	98	22.22	0.75	133.	109.	158	20.22	0.36	119.	146.	218	22.16	0.59	85.	169.
39	16.25	0.94	147.	59.	99	21.95	0.52	223.	109.	159	19.86	0.34	243.	146.	219	20.62	0.30	69.	170.
40	21.90	0.50	196.	60.	100	21.32	0.29	121.	110.	160	20.28	0.32	319.	146.	220	21.03	0.18	290.	170.
41	21.37	0.33	280.	60.	101	20.86	0.26	252.	110.	161	20.29	0.29	315.	146.	221	20.28	1.25	142.	171.
42	20.23	0.26	67.	62.	102	21.58	0.66	211.	111.	162	21.69	0.45	82.	147.	222	19.99	0.96	153.	172.
43	21.62	1.15	118.	62.	103	21.15	0.30	52.	111.	163	22.60	0.67	140.	147.	223	20.34	0.35	200.	172.
44	19.97	0.29	138.	63.	104	20.13	0.40	28.	112.	164	19.96	0.14	302.	147.	224	19.60	0.86	242.	172.
45	17.56	1.31	293.	64.	105	19.40	0.90	58.	112.	165	19.13	0.93	256.	148.	225	21.55	0.76	212.	172.
46	19.58	0.93	98.	66.	106	21.48	0.57	88.	113.	166	19.68	0.91	309.	148.	226	21.68	0.26	112.	172.
47	21.50	0.86	231.	66.	107	21.20	0.29	136.	113.	167	21.10	0.38	262.	148.	227	20.71	0.31	290.	172.
48	21.46	0.35	125.	67.	108	19.56	0.94	43.	113.	168	20.23	0.26	200.	148.	228	20.13	0.28	205.	173.
49	20.55	0.34	66.	69.	109	20.65	0.24	118.	114.	169	21.75	0.43	133.	148.	229	21.27	0.42	216.	173.
50	20.79	0.17	206.	70.	110	20.05	0.36	280.	115.	170	19.16	0.31	43.	149.	230	21.80	0.40	142.	173.
51	21.79	0.35	94.	72.	111	20.92	0.37	166.	116.	171	19.31	0.88	52.	150.	231	20.53	0.40	121.	173.
52	21.27	0.37	138.	73.	112	17.56	0.33	257.	116.	172	21.98	0.43	132.	152.	232	19.77	0.92	29.	174.
53	21.55	1.58	83.	75.	113	20.61	0.29	179.	117.	173	21.89	0.41	225.	153.	233	21.61	0.38	276.	174.
54	20.66	0.24	279.	75.	114	18.70	1.02	213.	117.	174	20.50	0.38	138.	154.	234	21.64	0.53	258.	174.
55	22.00	0.52	204.	75.	115	21.14	0.33	235.	117.	175	19.82	0.23	170.	154.	235	20.78	0.22	215.	175.
56	21.59	0.38	76.	76.	116	19.67	0.92	97.	118.	176	22.05	0.66	238.	155.	236	20.39	0.34	270.	175.
57	22.65	0.70	174.	76.	117	20.18	0.36	308.	118.	177	21.01	0.40	201.	156.	237	21.93	0.65	291.	175.
58	19.23	0.90	45.	78.	118	19.21	0.94	85.	119.	178	20.91	0.37	251.	157.	238	20.01	0.42	236.	175.
59	20.89	0.48	260.	80.	119	19.52	0.19	172.	119.	179	19.13	0.93	291.	157.	239	19.93	0.49	243.	176.
60	21.68	0.46	180.	80.	120	22.21	0.56	161.	119.	180	21.25	0.43	266.	157.	240	19.92	0.91	195.	176.

Table 15 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	19.94	0.29	184.	176.	301	21.14	0.36	137.	196.	361	20.72	0.35	165.	213.	421	19.29	0.16	211.	231.
242	21.51	0.39	261.	178.	302	20.77	0.32	218.	198.	362	20.93	0.43	209.	213.	422	19.07	0.76	200.	232.
243	21.30	0.28	107.	178.	303	21.05	0.39	248.	198.	363	20.23	0.27	270.	213.	423	16.58	2.39	232.	233.
244	20.18	0.40	76.	179.	304	20.05	0.26	127.	198.	364	21.71	0.57	44.	213.	424	20.56	0.04	180.	233.
245	20.64	0.38	246.	179.	305	19.87	0.46	300.	198.	365	18.55	1.07	172.	214.	425	17.80	0.97	308.	233.
246	18.33	0.75	125.	179.	306	22.13	0.77	57.	198.	366	19.72	0.91	117.	214.	426	19.32	0.68	193.	233.
247	20.77	0.25	266.	180.	307	22.01	0.69	92.	198.	367	20.48	0.38	181.	214.	427	21.04	0.36	55.	235.
248	20.32	0.28	236.	180.	308	20.13	0.43	197.	199.	368	20.16	0.26	232.	215.	428	19.54	0.83	183.	234.
249	19.70	0.83	110.	180.	309	20.39	0.19	257.	199.	369	21.19	0.38	136.	215.	429	20.41	0.21	239.	234.
250	21.97	0.47	162.	180.	310	20.99	0.24	240.	199.	370	20.22	0.40	104.	215.	430	19.71	0.37	26.	234.
251	22.33	0.55	96.	180.	311	20.88	0.40	110.	199.	371	19.69	0.25	119.	216.	431	19.85	0.24	282.	234.
252	20.87	0.26	62.	181.	312	20.92	0.32	61.	200.	372	19.50	0.08	26.	216.	432	21.44	0.45	136.	234.
253	22.00	0.38	174.	181.	313	20.33	0.30	261.	200.	373	21.23	0.27	30.	216.	433	20.44	0.41	265.	235.
254	22.59	0.95	263.	181.	314	19.84	0.92	157.	201.	374	21.16	0.26	81.	216.	434	19.88	0.20	79.	235.
255	20.91	0.32	36.	181.	315	21.66	0.58	144.	201.	375	19.97	0.23	150.	217.	435	22.05	0.42	119.	235.
256	21.56	0.09	171.	182.	316	21.29	0.58	256.	202.	376	19.57	0.90	285.	217.	436	20.76	0.30	15.	236.
257	20.19	0.19	211.	182.	317	19.38	0.63	179.	202.	377	20.48	0.49	175.	218.	437	20.47	0.57	237.	236.
258	22.12	0.35	285.	183.	318	20.77	0.49	100.	202.	378	19.37	0.91	68.	218.	438	19.93	0.14	199.	236.
259	21.62	0.35	169.	183.	319	22.26	0.51	247.	202.	379	20.64	0.38	141.	218.	439	21.28	0.49	129.	237.
260	21.65	0.58	130.	184.	320	20.27	0.38	205.	203.	380	21.58	0.26	195.	219.	440	21.03	0.40	241.	237.
261	21.19	0.39	201.	184.	321	22.23	0.41	116.	203.	381	20.12	0.30	259.	221.	441	20.00	0.63	220.	237.
262	21.10	-0.02	120.	184.	322	22.01	0.77	140.	203.	382	19.21	0.21	201.	221.	442	20.21	0.32	255.	237.
263	20.94	0.33	162.	184.	323	19.98	0.37	209.	204.	383	18.62	1.03	129.	221.	443	19.19	0.65	167.	237.
264	22.37	0.46	177.	184.	324	21.29	0.23	307.	204.	384	20.09	0.23	271.	221.	444	21.57	0.34	115.	237.
265	19.36	0.49	96.	185.	325	19.97	0.19	195.	204.	385	20.87	0.32	31.	221.	445	21.44	0.42	274.	237.
266	22.22	0.69	196.	185.	326	19.80	0.29	271.	204.	386	21.04	0.51	65.	221.	446	20.23	0.30	106.	238.
267	21.82	0.27	302.	186.	327	21.52	0.55	163.	204.	387	19.25	0.87	243.	221.	447	18.45	1.04	282.	238.
268	21.32	0.46	242.	186.	328	21.05	0.26	52.	204.	388	19.66	0.25	226.	222.	448	21.58	0.27	156.	238.
269	19.91	0.28	211.	186.	329	20.34	0.17	174.	205.	389	20.74	0.30	250.	222.	449	19.58	0.87	60.	238.
270	22.48	0.84	277.	187.	330	20.61	0.25	35.	205.	390	19.80	0.12	211.	222.	450	21.77	0.35	35.	238.
271	20.91	0.26	116.	187.	331	21.40	0.35	293.	205.	391	21.05	0.50	145.	223.	451	20.41	0.28	209.	239.
272	21.36	-0.45	120.	187.	332	20.20	0.25	185.	205.	392	19.59	0.31	11.	223.	452	20.99	0.29	206.	239.
273	20.53	0.30	285.	187.	333	21.17	0.23	303.	206.	393	20.67	0.27	261.	223.	453	20.36	-0.18	222.	239.
274	21.79	0.51	271.	188.	334	19.75	0.45	172.	206.	394	19.62	0.31	201.	223.	454	20.53	0.20	246.	240.
275	19.56	0.32	309.	188.	335	19.42	0.84	254.	207.	395	19.99	0.21	37.	224.	455	21.18	0.54	153.	240.
276	20.74	0.44	140.	188.	336	21.66	0.41	232.	208.	396	20.92	0.40	192.	224.	456	20.99	0.33	263.	240.
277	20.63	0.34	253.	188.	337	19.37	0.16	205.	208.	397	20.36	0.25	225.	224.	457	20.15	0.24	141.	240.
278	21.31	-0.26	233.	188.	338	19.17	0.88	131.	208.	398	19.89	0.98	246.	224.	458	19.82	0.99	124.	241.
279	21.21	0.43	236.	189.	339	20.31	0.16	280.	208.	399	20.08	0.28	208.	224.	459	19.38	0.50	181.	241.
280	20.71	0.36	213.	189.	340	20.71	0.51	201.	208.	400	19.90	0.91	153.	225.	460	20.54	0.28	75.	241.
281	20.28	0.06	264.	189.	341	19.54	0.27	156.	208.	401	19.66	0.60	77.	226.	461	20.79	0.18	226.	241.
282	19.98	0.33	218.	190.	342	19.82	0.24	238.	209.	402	19.41	0.97	10.	226.	462	20.51	0.93	221.	241.
283	22.69	0.78	228.	190.	343	19.84	0.87	225.	209.	403	20.99	0.41	141.	226.	463	19.30	0.81	62.	241.
284	20.50	0.28	123.	190.	344	20.13	0.53	278.	209.	404	20.81	0.24	264.	226.	464	19.31	0.87	20.	241.
285	19.75	0.90	175.	191.	345	19.34	0.17	193.	210.	405	19.55	0.86	176.	226.	465	21.22	0.25	268.	241.
286	20.73	0.34	197.	191.	346	19.65	0.77	266.	210.	406	20.22	0.32	200.	226.	466	20.58	0.36	207.	241.
287	21.88	0.41	155.	191.	347	20.06	0.25	103.	210.	407	20.02	0.23	131.	227.	467	20.21	0.32	174.	241.
288	20.62	0.34	167.	192.	348	20.31	0.33	282.	210.	408	19.63	0.90	159.	227.	468	21.19	0.28	134.	242.
289	19.27	0.81	265.	192.	349	21.28	0.35	62.	210.	409	20.00	0.26	208.	227.	469	19.54	0.81	145.	242.
290	21.28	0.33	116.	192.	350	20.74	0.40	262.	210.	410	19.95	0.12	181.	227.	470	20.33	-0.16	199.	242.
291	21.91	0.68	252.	193.	351	21.48	0.37	98.	210.	411	21.07	0.32	108.	228.	471	19.19	0.94	256.	242.
292	21.06	0.36	233.	193.	352	20.66	0.69	236.	210.	412	21.88	0.29	113.	228.	472	20.73	0.35	260.	242.
293	21.51	0.57	36.	193.	353	20.69	0.44	227.	211.	413	20.13	0.27	101.	229.	473	18.92	0.80	160.	242.
294	20.62	0.31	99.	193.	354	20.11	0.33	300.	211.	414	20.60	0.35	151.	229.	474	20.05	0.55	177.	243.
295	20.82	0.31	171.	193.	355	21.98	0.73	160.	211.	415	20.06	0.34	255.	230.	475	19.79	0.52	197.	243.
296	20.92	0.34	82.	194.	356	20.41	0.35	205.	212.	416	19.84	0.34	162.	230.	476	21.43	-0.32	269.	243.
297	21.41	0.48	90.	194.	357	20.35	0.49	190.	212.	417	21.44	0.61	131.	230.	477	20.82	0.12	138.	243.
298	20.33	0.42	71.	195.	358	20.62	0.38	134.	212.	418	21.48	0.31	111.	230.	478	19.79	0.95	195.	243.
299	19.79	0.29	208.	195.	359	19.37	0.72	222.	213.	419	19.09	0.93	158.	230.	479	20.36	0.25	278.	243.
300	21.54	0.40	240.	196.	360	19.70	0.38	195.	213.	420	21.38	0.46	266.	231.	480	19.76	0.42	206.	244.

Table 15 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
481	20.96	0.45	135.	244.	541	18.32	1.02	186.	262.	601	20.18	0.24	108.	276.	661	17.50	0.62	147.	289.
482	20.99	0.37	85.	245.	542	20.42	0.64	169.	263.	602	21.16	0.24	116.	276.	662	19.67	0.39	265.	289.
483	20.38	0.22	304.	245.	543	19.68	0.27	102.	263.	603	20.97	0.32	137.	277.	663	21.66	0.31	72.	289.
484	20.73	0.36	164.	245.	544	20.02	0.13	221.	263.	604	22.79	0.47	70.	277.	664	18.36	0.19	165.	290.
485	20.58	0.31	141.	245.	545	21.57	0.35	83.	264.	605	19.75	0.15	167.	277.	665	21.67	0.41	15.	290.
486	20.23	0.44	226.	245.	546	20.31	0.76	273.	264.	606	21.20	0.45	161.	277.	666	19.73	0.92	301.	291.
487	19.28	0.73	118.	246.	547	21.57	0.52	309.	264.	607	20.30	0.21	179.	277.	667	20.28	0.20	125.	291.
488	20.40	0.27	212.	246.	548	20.11	0.09	170.	264.	608	21.02	0.43	297.	277.	668	19.51	-0.10	241.	291.
489	19.68	0.80	185.	247.	549	20.92	0.14	278.	264.	609	20.13	0.29	207.	278.	669	18.25	1.11	235.	292.
490	19.59	0.12	188.	247.	550	19.26	0.95	177.	265.	610	21.50	0.42	47.	278.	670	20.39	0.06	174.	292.
491	19.63	0.20	283.	247.	551	20.31	0.06	170.	265.	611	20.64	0.41	283.	278.	671	21.03	0.40	73.	292.
492	19.89	0.36	178.	247.	552	20.01	0.22	67.	265.	612	21.09	0.70	280.	278.	672	22.45	0.87	69.	292.
493	20.70	0.34	265.	247.	553	19.63	0.89	235.	265.	613	21.61	0.53	306.	278.	673	19.50	0.02	153.	292.
494	19.96	0.29	143.	248.	554	19.52	0.30	244.	266.	614	20.77	0.43	273.	278.	674	19.29	0.58	170.	292.
495	21.35	0.44	258.	249.	555	20.33	0.34	46.	266.	615	20.07	0.71	237.	278.	675	19.27	0.70	209.	294.
496	19.88	1.01	267.	250.	556	20.23	0.34	144.	266.	616	19.55	0.34	130.	279.	676	18.79	0.13	240.	294.
497	19.46	0.81	162.	250.	557	20.76	0.35	149.	266.	617	19.51	0.57	158.	279.	677	21.23	0.39	134.	294.
498	19.94	0.40	121.	251.	558	20.40	0.36	179.	266.	618	19.79	1.04	149.	279.	678	19.71	-0.06	219.	294.
499	20.00	0.25	102.	251.	559	20.91	0.03	118.	266.	619	19.68	0.39	50.	280.	679	21.15	1.06	299.	294.
500	21.92	0.36	253.	251.	560	21.95	0.39	262.	266.	620	19.56	0.56	215.	280.	680	18.39	0.36	186.	294.
501	19.71	1.04	200.	251.	561	18.14	0.83	162.	267.	621	19.94	0.36	141.	281.	681	21.96	0.57	80.	294.
502	20.16	0.21	221.	251.	562	19.76	0.29	36.	267.	622	19.70	0.95	202.	281.	682	19.94	0.96	306.	295.
503	20.48	0.31	132.	252.	563	21.43	0.50	230.	267.	623	20.27	0.72	184.	281.	683	21.14	0.44	100.	295.
504	19.61	0.51	204.	252.	564	21.28	0.26	289.	268.	624	20.18	0.20	130.	281.	684	21.16	0.31	35.	295.
505	20.85	0.28	160.	253.	565	19.87	0.85	189.	268.	625	19.97	0.92	257.	281.	685	20.10	0.36	287.	295.
506	20.35	0.22	111.	253.	566	20.58	0.26	206.	268.	626	18.08	1.20	265.	281.	686	19.17	-0.03	190.	295.
507	20.00	-0.17	215.	253.	567	20.35	0.36	276.	268.	627	20.65	0.35	69.	281.	687	19.38	0.99	269.	295.
508	20.05	0.83	197.	253.	568	21.73	0.65	87.	268.	628	20.97	0.38	270.	281.	688	20.67	0.34	92.	295.
509	22.42	0.39	290.	254.	569	21.21	0.36	97.	269.	629	19.98	0.98	220.	281.	689	19.20	0.26	227.	296.
510	21.12	0.46	107.	254.	570	22.41	0.67	261.	269.	630	19.94	0.12	240.	282.	690	18.78	0.66	216.	297.
511	21.67	0.41	307.	254.	571	19.10	0.38	197.	269.	631	19.67	0.88	287.	282.	691	21.22	0.12	301.	297.
512	22.25	0.44	250.	254.	572	17.13	3.17	121.	269.	632	21.08	0.16	296.	282.	692	21.47	0.28	91.	297.
513	20.11	0.32	179.	254.	573	20.25	-0.25	222.	269.	633	19.21	0.74	215.	282.	693	18.80	0.52	169.	297.
514	21.72	0.65	115.	255.	574	20.04	0.34	290.	270.	634	19.92	0.92	140.	282.	694	19.58	0.05	154.	297.
515	19.12	0.72	183.	255.	575	21.05	0.35	71.	270.	635	20.09	0.24	185.	283.	695	20.71	0.25	159.	29[illegible].
516	21.08	0.44	277.	255.	576	21.63	0.32	31.	271.	636	21.51	0.21	104.	283.	696	21.39	0.87	274.	298.
517	21.26	0.63	297.	256.	577	19.30	0.37	218.	271.	637	21.50	0.53	98.	283.	697	19.46	0.72	270.	298.
518	20.54	0.31	261.	256.	578	20.90	0.09	268.	271.	638	21.02	0.33	90.	283.	698	20.94	0.29	141.	298.
519	19.40	0.23	220.	256.	579	19.56	0.77	302.	271.	639	20.09	0.26	18.	284.	699	19.77	0.17	172.	298.
520	18.31	0.75	205.	256.	580	19.65	0.28	133.	271.	640	20.41	0.11	167.	284.	700	20.09	-0.28	221.	299.
521	19.96	0.70	214.	256.	581	19.05	0.54	195.	271.	641	19.68	0.43	233.	284.	701	18.96	0.53	238.	299.
522	19.15	0.99	178.	257.	582	20.87	0.06	100.	271.	642	21.55	0.37	277.	285.	702	18.24	1.09	265.	299.
523	20.49	0.30	142.	257.	583	18.34	0.98	212.	272.	643	19.52	0.50	242.	285.	703	20.36	0.32	125.	299.
524	19.37	0.85	51.	257.	584	21.13	0.26	129.	272.	644	21.07	-0.21	165.	286.	704	20.64	0.31	294.	299.
525	19.68	0.92	273.	258.	585	20.98	0.51	23.	273.	645	18.39	1.03	35.	286.	705	17.93	0.34	193.	299.
526	19.82	0.25	151.	258.	586	19.92	0.30	269.	273.	646	20.46	-0.05	233.	286.	706	20.25	0.31	130.	299.
527	19.53	0.94	118.	258.	587	19.64	0.55	214.	273.	647	19.98	0.28	239.	286.	707	19.63	0.33	281.	299.
528	20.07	0.09	162.	259.	588	20.08	0.23	200.	273.	648	19.69	0.29	122.	286.	708	18.34	0.34	227.	299.
529	19.50	0.41	203.	259.	589	19.66	0.11	259.	274.	649	19.66	0.52	263.	287.	709	17.88	0.70	180.	300.
530	21.53	0.46	127.	259.	590	20.55	0.19	121.	275.	650	18.04	0.41	230.	287.	710	19.69	0.04	203.	300.
531	19.94	0.38	218.	260.	591	20.07	0.11	251.	276.	651	19.33	0.83	180.	287.	711	19.89	0.10	201.	300.
532	21.46	0.38	134.	260.	592	19.55	-0.04	204.	276.	652	19.15	0.52	226.	287.	712	20.47	-0.14	235.	300.
533	21.29	0.29	280.	260.	593	21.49	0.02	46.	276.	653	18.00	1.14	295.	287.	713	19.14	0.04	214.	301.
534	19.30	0.98	53.	260.	594	20.02	0.24	299.	276.	654	19.49	0.23	235.	288.	714	19.49	0.10	221.	301.
535	20.96	0.38	307.	260.	595	20.32	0.26	279.	276.	655	20.33	0.62	107.	288.	715	20.99	0.47	293.	301.
536	20.85	0.38	147.	261.	596	19.38	0.14	209.	276.	656	21.23	0.26	285.	288.	716	19.62	0.04	244.	302.
537	22.49	0.68	292.	261.	597	20.21	0.22	192.	276.	657	21.96	0.58	291.	288.	717	21.25	0.26	275.	302.
538	20.02	0.47	197.	261.	598	19.32	0.94	147.	276.	658	20.69	0.33	89.	288.	718	20.37	0.08	205.	302.
539	21.49	0.31	311.	262.	599	21.61	0.55	43.	276.	659	20.94	0.13	109.	289.	719	18.83	0.18	260.	302.
540	20.17	0.20	200.	262.	600	20.65	0.25	293.	276.	660	21.19	0.11	259.	289.	720	20.94	0.28	271.	303.

Table 15 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
721	20.19	0.38	59.	303.	781	19.25	0.30	104.	319.	841	20.13	0.31	166.	334.	901	19.76	0.94	282.	354.
722	19.56	-0.05	217.	303.	782	21.99	0.44	129.	319.	842	21.23	0.23	119.	334.	902	21.32	-0.02	176.	354.
723	22.22	0.35	87.	304.	783	18.58	0.22	171.	319.	843	21.05	0.51	114.	334.	903	19.31	0.64	211.	354.
724	19.30	0.06	222.	304.	784	21.81	0.42	259.	320.	844	21.87	0.39	239.	335.	904	21.41	0.42	82.	355.
725	18.54	0.50	153.	304.	785	19.93	0.21	183.	320.	845	19.52	0.88	135.	335.	905	19.88	0.87	160.	355.
726	19.81	0.38	294.	305.	786	19.20	0.45	214.	320.	846	21.33	0.29	71.	335.	906	19.43	0.96	210.	355.
727	18.64	0.26	191.	305.	787	21.82	0.74	288.	320.	847	21.14	-0.05	270.	336.	907	20.95	0.09	284.	355.
728	20.80	0.26	115.	305.	788	19.18	0.80	149.	320.	848	18.26	1.16	124.	336.	908	20.57	0.33	277.	355.
729	21.74	0.57	33.	305.	789	20.24	0.27	142.	321.	849	20.22	0.35	225.	337.	909	19.32	0.82	125.	355.
730	21.38	0.39	76.	305.	790	19.89	0.15	267.	321.	850	21.27	0.27	95.	337.	910	20.92	0.36	190.	355.
731	20.66	0.20	236.	306.	791	18.89	0.08	220.	322.	851	19.61	0.96	76.	337.	911	21.35	1.26	197.	356.
732	20.67	0.44	137.	306.	792	20.94	0.37	155.	322.	852	20.10	0.57	119.	337.	912	20.44	0.34	169.	356.
733	20.82	0.32	89.	307.	793	19.25	0.51	191.	322.	853	20.20	0.25	249.	338.	913	19.57	0.34	281.	357.
734	20.36	0.42	273.	307.	794	19.01	0.05	234.	322.	854	21.22	0.31	213.	338.	914	20.07	0.36	245.	357.
735	20.65	0.23	140.	307.	795	19.44	0.05	206.	322.	855	21.17	0.60	166.	338.	915	19.88	0.26	290.	357.
736	19.72	1.12	110.	308.	796	21.05	0.34	158.	322.	856	20.78	0.36	272.	338.	916	21.99	0.71	186.	358.
737	18.13	0.24	227.	308.	797	18.88	0.65	174.	323.	857	19.78	0.81	255.	338.	917	19.44	0.78	208.	358.
738	22.60	0.59	92.	308.	798	19.90	0.93	133.	323.	858	20.90	0.35	173.	339.	918	19.88	0.30	66.	358.
739	19.39	0.29	158.	308.	799	19.45	0.33	265.	323.	859	20.62	0.51	128.	339.	919	20.72	0.39	26.	358.
740	21.52	0.17	259.	308.	800	22.35	0.49	60.	324.	860	21.69	0.24	163.	339.	920	20.47	0.23	222.	359.
741	19.05	-0.08	194.	308.	801	19.25	0.22	183.	324.	861	21.49	0.49	152.	339.	921	20.64	0.28	159.	359.
742	19.26	0.16	231.	309.	802	18.37	0.35	229.	324.	862	22.53	0.50	94.	340.	922	19.70	0.25	204.	359.
743	20.86	0.26	107.	309.	803	21.28	0.25	283.	324.	863	20.39	0.36	214.	340.	923	21.24	0.38	95.	360.
744	21.50	0.45	288.	309.	804	20.50	0.84	41.	324.	864	20.80	0.33	220.	340.	924	21.26	0.34	190.	360.
745	19.75	-0.05	236.	309.	805	19.98	0.06	185.	324.	865	18.76	1.10	263.	340.	925	19.06	0.87	252.	360.
746	21.50	0.31	23.	309.	806	20.41	0.28	136.	324.	866	20.34	0.26	182.	341.	926	20.04	0.25	233.	361.
747	20.59	0.31	277.	310.	807	20.01	0.32	107.	324.	867	19.91	0.99	192.	341.	927	21.38	0.39	119.	362.
748	18.38	0.05	53.	310.	808	19.95	0.23	192.	325.	868	21.24	0.37	70.	341.	928	19.81	1.05	176.	362.
749	21.56	0.37	98.	310.	809	20.39	0.15	12.	325.	869	20.99	0.34	163.	342.	929	20.33	0.15	213.	362.
750	21.35	0.27	78.	310.	810	19.86	0.31	45.	325.	870	21.21	0.37	110.	342.	930	20.17	0.16	217.	363.
751	21.51	0.41	66.	311.	811	21.19	0.35	295.	326.	871	20.45	0.27	77.	343.	931	21.80	0.39	296.	363.
752	19.46	0.25	226.	312.	812	20.67	0.31	101.	326.	872	21.08	0.52	215.	343.	932	20.45	0.36	70.	363.
753	19.02	0.37	187.	312.	813	22.54	0.56	36.	327.	873	20.18	0.31	115.	343.	933	21.52	0.60	187.	363.
754	21.61	0.42	301.	312.	814	20.25	0.27	149.	327.	874	18.12	1.36	141.	343.	934	20.23	0.29	149.	363.
755	19.16	0.50	177.	312.	815	20.54	0.25	163.	327.	875	20.75	0.22	267.	344.	935	19.62	0.95	144.	364.
756	18.82	0.57	160.	313.	816	19.63	0.82	259.	328.	876	21.62	0.34	149.	345.	936	19.64	0.87	277.	364.
757	22.04	0.79	32.	314.	817	19.77	0.85	290.	328.	877	18.52	0.58	222.	346.	937	19.33	0.12	126.	364.
758	22.27	0.66	77.	314.	818	19.99	0.26	263.	328.	878	20.94	0.34	126.	346.	938	22.26	0.68	314.	364.
759	18.70	0.08	209.	314.	819	18.92	0.47	177.	329.	879	21.13	0.30	293.	346.	939	21.00	0.34	98.	365.
760	20.21	0.13	252.	314.	820	20.22	0.39	269.	329.	880	20.86	0.41	137.	346.	940	21.13	0.30	84.	365.
761	20.21	0.45	146.	314.	821	20.83	0.21	308.	329.	881	21.01	0.48	153.	346.	941	20.57	0.12	151.	365.
762	21.60	0.32	283.	314.	822	19.85	1.11	265.	329.	882	21.86	0.45	203.	348.	942	20.40	0.36	173.	365.
763	20.17	0.29	178.	315.	823	19.87	0.83	273.	329.	883	21.62	0.33	281.	349.	943	21.18	0.33	71.	366.
764	20.20	0.07	169.	315.	824	18.51	0.56	180.	330.	884	21.80	0.54	50.	349.	944	22.28	0.79	295.	366.
765	18.51	0.39	193.	315.	825	20.80	0.32	64.	330.	885	20.53	0.31	61.	349.	945	20.40	0.23	234.	366.
766	20.67	0.33	286.	315.	826	21.05	0.46	234.	330.	886	21.31	0.26	198.	350.	946	20.19	0.34	242.	366.
767	19.84	0.09	164.	315.	827	19.49	0.37	248.	330.	887	19.35	0.25	256.	350.	947	20.72	0.30	30.	366.
768	20.78	0.21	97.	315.	828	19.16	0.86	113.	331.	888	21.21	0.26	300.	350.	948	20.94	0.30	131.	366.
769	19.34	0.88	142.	315.	829	20.64	0.47	108.	331.	889	21.69	0.45	149.	350.	949	21.71	0.41	309.	366.
770	19.94	-0.07	233.	315.	830	21.37	0.35	293.	331.	890	19.31	0.81	252.	351.	950	20.88	0.33	193.	367.
771	21.41	0.95	249.	315.	831	20.56	0.23	16.	331.	891	19.57	0.86	210.	351.	951	21.12	0.26	303.	367.
772	21.78	0.59	93.	316.	832	19.67	0.59	250.	332.	892	20.54	0.30	221.	352.	952	21.44	0.56	67.	367.
773	21.74	0.54	118.	316.	833	19.74	0.22	163.	332.	893	20.69	0.77	250.	353.	953	19.41	0.93	21.	367.
774	19.38	0.08	212.	316.	834	21.83	0.57	94.	332.	894	21.62	0.24	173.	353.	954	21.34	0.46	200.	367.
775	21.69	0.46	30.	317.	835	20.41	0.57	246.	332.	895	20.92	0.12	51.	353.	955	19.68	0.51	218.	368.
776	19.73	0.08	229.	317.	836	19.76	0.29	152.	333.	896	21.86	0.35	186.	353.	956	20.67	0.25	142.	368.
777	19.21	0.94	253.	317.	837	18.32	0.40	198.	333.	897	20.31	0.39	49.	353.	957	20.35	0.31	203.	368.
778	22.42	0.60	79.	318.	838	18.56	0.62	192.	333.	898	19.62	0.52	213.	354.	958	19.66	0.88	255.	369.
779	21.31	0.90	142.	318.	839	21.41	-0.07	268.	334.	899	18.86	0.90	197.	354.	959	21.83	0.47	179.	370.
780	21.79	0.13	285.	319.	840	21.26	0.33	128.	334.	900	19.25	0.95	133.	354.	960	21.77	0.45	139.	370.

Table 15 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
961	20.91	0.18	82.	370.	1016	21.05	0.81	165.	388.	1071	21.83	0.69	138.	415.	1126	20.19	0.94	127.	450.
962	21.49	0.43	93.	370.	1017	20.87	0.26	147.	389.	1072	20.13	0.40	126.	416.	1127	20.66	0.25	165.	451.
963	19.40	0.88	154.	370.	1018	20.50	0.25	280.	389	1073	20.97	0.25	209.	416.	1128	20.94	0.29	196.	453.
964	20.77	0.34	115.	371.	1019	21.25	0.54	233.	390.	1074	19.87	0.14	259.	418.	1129	21.30	0.51	231.	453.
965	19.00	0.84	33.	371.	1020	20.67	0.34	257.	390.	1075	20.95	0.29	89.	418.	1130	21.30	0.29	57.	454.
966	21.69	0.41	304.	371.	1021	20.23	0.32	207.	390.	1076	20.01	0.20	165.	418.	1131	20.70	0.42	195.	457.
967	21.37	0.65	252.	371.	1022	22.38	0.62	55.	391.	1077	19.77	0.20	149.	419.	1132	21.51	0.31	287.	458.
968	20.42	0.25	291.	372.	1023	21.74	0.42	238.	391.	1078	20.18	0.28	292.	419.	1133	20.61	0.30	70.	459.
969	21.32	0.48	168.	372.	1024	19.49	0.38	152.	392.	1079	20.94	0.33	189.	419.	1134	19.49	0.99	220.	462.
970	21.41	0.36	85.	372.	1025	22.06	0.37	298.	392.	1080	21.44	0.43	244.	421.	1135	17.64	1.57	162.	462.
971	20.32	0.22	208.	372.	1026	18.69	0.38	182.	393.	1081	21.37	0.60	263.	422.	1136	19.41	1.00	126.	462.
972	19.90	0.29	102.	373.	1027	20.93	0.30	129.	393.	1082	20.24	0.29	168.	423.	1137	21.91	0.60	290.	463.
973	20.90	0.20	184.	373.	1028	21.76	0.35	24.	394.	1083	21.10	0.33	60.	426.	1138	18.55	1.03	111.	467.
974	20.99	0.49	172.	374.	1029	18.42	0.96	105.	394.	1084	21.88	0.52	215.	426.	1139	20.60	0.38	211.	468.
975	20.75	0.34	91.	374.	1030	21.82	0.37	156.	394.	1085	21.55	0.38	161.	426.	1140	21.69	0.82	84.	469.
976	21.11	0.36	200.	374.	1031	21.04	0.37	164.	394.	1086	21.03	0.27	145.	427.	1141	18.99	1.15	180.	470.
977	20.74	0.39	245.	374.	1032	20.62	0.38	252.	395.	1087	21.84	0.43	81.	428.	1142	20.72	0.26	142.	471.
978	18.17	0.25	154.	375.	1033	19.12	0.93	262.	396.	1088	20.77	0.31	211.	428.	1143	20.21	0.30	17.	472.
979	21.41	0.51	85.	375.	1034	21.22	0.33	53.	396.	1089	19.83	0.28	197.	428.	1144	21.64	0.38	118.	472.
980	20.89	0.24	213.	375.	1035	21.63	0.20	280.	396.	1090	20.83	0.25	117.	428.	1145	21.93	0.44	187.	475.
981	20.36	0.19	181.	376.	1036	21.64	0.38	155.	397.	1091	21.45	0.43	293.	430.	1146	19.49	0.95	53.	475.
982	20.93	0.44	206.	376.	1037	19.51	0.26	215.	398.	1092	21.10	0.32	207.	430.	1147	21.51	0.23	172.	476.
983	21.73	0.48	60.	377.	1038	19.56	1.06	64.	398.	1093	20.05	0.15	231.	430.	1148	20.93	0.45	62.	477.
984	21.13	0.34	300.	377.	1039	21.30	0.72	225.	399.	1094	20.13	0.58	60.	430.	1149	21.05	0.41	175.	477.
985	21.26	0.30	200.	378.	1040	20.30	0.30	209.	399.	1095	21.56	0.41	241.	430.	1150	18.03	1.21	283.	477.
986	20.19	0.37	196.	378.	1041	19.63	0.19	230.	399.	1096	19.08	0.87	276.	430.	1151	19.83	0.94	120.	478.
987	20.11	0.35	174.	379.	1042	19.40	0.88	212.	400.	1097	20.87	0.24	68.	431.	1152	21.60	0.33	142.	478.
988	21.89	0.51	258.	379.	1043	20.14	0.28	171.	401.	1098	19.96	0.30	108.	431.	1153	22.93	0.61	138.	479.
989	21.00	0.25	23.	379.	1044	21.32	0.43	270.	401.	1099	22.01	0.74	130.	432.	1154	19.82	1.01	31.	481.
990	21.67	0.60	165.	379.	1045	21.35	0.47	42.	402.	1100	19.88	0.29	75.	434.	1155	21.17	0.30	201.	483.
991	19.60	1.00	246.	379.	1046	20.88	0.77	279.	402.	1101	20.52	0.33	222.	434.	1156	21.24	0.34	194.	483.
992	20.45	0.23	146.	379.	1047	20.98	0.15	257.	403.	1102	20.45	0.25	124.	435.	1157	19.89	0.46	119.	484.
993	19.34	0.94	83.	379.	1048	21.63	0.33	282.	403.	1103	20.53	0.26	201.	435.	1158	21.58	0.42	116.	487.
994	19.88	0.34	228.	380.	1049	20.75	0.36	218.	403.	1104	22.19	0.62	292.	435.	1159	20.68	0.21	312.	488.
995	20.57	0.40	45.	381.	1050	21.45	0.46	22.	404.	1105	21.40	0.28	129.	436.	1160	22.52	0.61	47.	488.
996	19.64	0.54	226.	381.	1051	21.75	0.48	180.	404.	1106	21.36	0.29	176.	436.	1161	21.89	0.47	233.	488.
997	19.54	0.95	275.	381.	1052	21.98	0.40	254.	404.	1107	21.10	0.33	250.	437.	1162	21.35	0.33	184.	489.
998	21.49	0.70	170.	382.	1053	19.61	0.29	71.	405.	1108	22.46	0.81	285.	438.	1163	21.68	0.33	42.	490.
999	20.40	0.43	106.	382.	1054	20.05	0.28	146.	405.	1109	20.29	0.40	172.	439.	1164	19.68	0.80	274.	491.
1000	21.49	0.28	192.	383.	1055	21.84	0.72	160.	405.	1110	22.01	0.61	254.	440.	1165	20.75	0.31	308.	492.
1001	20.35	0.17	193.	385.	1056	19.68	0.86	77.	406.	1111	21.97	0.56	235.	442.	1166	19.41	0.88	112.	493.
1002	20.31	0.39	82.	385.	1057	20.36	0.37	272.	406.	1112	21.66	0.40	294.	442.	1167	21.22	0.39	31.	495.
1003	20.92	0.41	238.	385.	1058	20.02	0.27	198.	406.	1113	21.46	0.42	118.	442.	1168	20.86	0.26	224.	496.
1004	19.03	0.84	143.	386.	1059	21.57	0.42	125.	406.	1114	21.40	0.47	227.	442.	1169	21.32	0.37	48.	497.
1005	21.33	0.46	245.	386.	1060	19.67	0.77	244.	407.	1115	19.44	0.92	60.	443.	1170	21.68	0.60	122.	498.
1006	20.13	0.29	283.	386.	1061	19.49	0.98	247.	408.	1116	19.90	0.24	242.	444.	1171	22.33	0.72	44.	501.
1007	20.96	0.34	139.	387.	1062	20.19	0.31	156.	409.	1117	20.23	0.78	148.	444.	1172	21.11	0.41	14.	501.
1008	20.11	0.38	208.	387.	1063	21.85	0.53	188.	410.	1118	21.25	0.35	209.	445.	1173	19.86	0.85	303.	503.
1009	21.63	0.35	298.	387.	1064	21.49	0.40	210.	411.	1119	21.68	0.25	21.	445.	1174	21.70	0.27	203.	504.
1010	21.35	0.53	79.	387.	1065	17.20	1.09	51.	411.	1120	19.60	0.86	157.	446.	1175	20.21	0.24	299.	505.
1011	21.70	0.63	136.	387.	1066	21.30	0.35	237.	411.	1121	20.69	0.40	41.	447.	1176	21.53	0.34	101.	507.
1012	22.05	0.50	294.	387.	1067	21.79	0.38	235.	412.	1122	21.40	0.29	211.	447.	1177	20.55	0.26	280.	508.
1013	19.77	0.95	205.	387.	1068	19.61	0.28	162.	413.	1123	19.85	0.89	186.	448.					
1014	22.12	0.79	199.	388.	1069	21.29	0.32	118.	415.	1124	19.67	0.24	243.	449.					
1015	21.61	0.46	64.	388.	1070	22.04	0.57	207.	415.	1125	21.45	0.44	192.	450.					

Table 16 : Magnitudes, Colors and Positions of Stars in NGC 2249.

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
1	20.38	0.32	267.	6.	61	20.12	0.09	221.	157.	121	20.15	0.31	162.	212.	181	20.58	0.32	291.	261.
2	19.28	0.15	286.	7.	62	16.88	1.18	163.	158.	122	19.50	0.28	114.	212.	182	18.93	0.82	251.	262.
3	21.77	0.47	212.	8.	63	19.55	0.23	235.	160.	123	18.94	0.13	210.	212.	183	20.85	0.51	248.	262.
4	19.87	0.16	94.	15.	64	19.02	0.20	171.	161.	124	19.70	0.19	95.	214.	184	21.67	-0.28	13.	263.
5	21.68	-0.03	96.	18.	65	20.79	0.13	22.	162.	125	18.83	0.96	56.	215.	185	19.12	0.88	290.	264.
6	21.34	0.66	284.	27.	66	15.69	0.54	206.	162.	126	19.54	1.03	36.	215.	186	20.72	0.45	274.	267.
7	18.84	0.15	285.	29.	67	19.42	0.17	119.	163.	127	21.62	0.80	102.	215.	187	20.96	0.43	57.	267.
8	18.92	0.16	285.	29.	68	20.60	0.32	69.	163.	128	19.25	-0.32	170.	215.	188	19.52	0.19	48.	269.
9	20.71	0.43	19.	36.	69	21.33	0.38	154.	163.	129	19.85	0.49	208.	215.	189	20.65	0.38	300.	269.
10	20.43	0.24	88.	36.	70	20.40	0.05	141.	166.	130	19.58	-0.14	148.	216.	190	20.72	0.61	254.	270.
11	19.05	0.84	100.	37.	71	21.07	0.06	151.	166.	131	20.62	0.56	241.	217.	191	20.99	0.47	283.	271.
12	19.86	0.24	173.	38.	72	18.85	0.90	87.	166.	132	18.73	0.75	172.	217.	192	21.35	0.48	308.	272.
13	18.36	1.06	113.	43.	73	20.28	0.16	136.	167.	133	18.67	1.06	226.	218.	193	21.01	0.48	288.	272.
14	18.79	0.86	150.	53.	74	19.69	0.18	111.	168.	134	19.33	0.09	214.	219.	194	19.99	0.31	35.	275.
15	21.17	0.35	156.	58.	75	20.93	0.26	150.	169.	135	18.51	0.69	180.	220.	195	18.74	0.88	262.	275.
16	20.75	0.29	138.	67.	76	20.60	-0.01	217.	170.	136	19.53	0.09	146.	220.	196	20.93	0.34	46.	276.
17	20.73	0.32	231.	74.	77	21.15	-0.07	109.	171.	137	18.43	0.99	150.	220.	197	20.10	0.22	239.	278.
18	20.91	0.40	303.	74.	78	20.52	0.04	153.	173.	138	18.79	0.91	93.	220.	198	18.82	0.21	249.	280.
19	20.01	0.28	113.	80.	79	20.53	0.49	155.	176.	139	19.14	0.15	113.	223.	199	19.17	0.24	107.	280.
20	20.53	0.27	52.	93.	80	19.16	0.25	10.	178.	140	21.85	0.62	78.	223.	200	19.73	1.74	233.	281.
21	20.57	0.93	270.	95.	81	20.29	0.28	166.	181.	141	20.92	0.30	125.	224.	201	19.84	0.34	246.	281.
22	20.59	0.64	25.	98.	82	18.57	0.81	214.	182.	142	18.53	0.52	202.	226.	202	20.35	0.35	302.	282.
23	21.36	0.62	24.	102.	83	20.71	-0.45	193.	182.	143	19.03	0.12	84.	226.	203	19.67	0.21	251.	284.
24	20.89	0.58	265.	103.	84	18.68	0.19	206.	182.	144	20.59	0.32	122.	227.	204	20.00	0.88	12.	285.
25	18.73	0.96	147.	104.	85	18.97	0.22	199.	182.	145	20.66	0.36	113.	228.	205	21.20	0.77	266.	285.
26	20.74	0.26	203.	107.	86	19.34	0.22	57.	184.	146	20.22	0.57	95.	228.	206	19.98	0.27	252.	287.
27	20.51	0.32	130.	107.	87	19.69	-0.10	192.	184.	147	19.73	0.16	104.	229.	207	18.83	0.26	115.	288.
28	19.82	0.16	91.	109.	88	19.79	0.09	173.	187.	148	19.12	0.22	257.	230.	208	18.34	0.00	240.	289.
29	22.54	0.37	217.	111.	89	20.73	0.40	223.	187.	149	20.71	0.24	303.	231.	209	20.27	0.32	82.	289.
30	20.94	0.49	233.	112.	90	18.69	0.85	159.	188.	150	20.99	1.39	107.	231.	210	20.91	0.47	73.	290.
31	18.93	0.20	225.	114.	91	19.10	0.13	134.	188.	151	18.74	0.88	79.	233.	211	20.19	0.24	271.	291.
32	19.81	0.14	10.	115.	92	20.83	0.36	151.	189.	152	20.59	0.31	273.	234.	212	20.86	0.74	108.	292.
33	20.48	0.29	300.	115.	93	19.82	0.08	141.	189.	153	18.83	0.17	228.	236.	213	20.19	0.44	245.	295.
34	20.11	0.24	255.	116.	94	20.01	0.10	193.	190.	154	20.09	0.13	263.	237.	214	18.82	0.94	81.	295.
35	18.27	0.92	263.	117.	95	19.93	0.17	34.	190.	155	20.26	0.91	278.	237.	215	19.72	0.39	112.	297.
36	20.81	0.45	209.	118.	96	19.59	0.26	186.	191.	156	18.88	0.86	102.	239.	216	21.14	0.31	85.	298.
37	20.61	0.96	193.	119.	97	20.05	0.08	175.	191.	157	19.07	0.17	63.	241.	217	20.65	-0.05	48.	298.
38	20.75	0.37	87.	119.	98	20.42	-0.10	175.	192.	158	20.45	0.48	74.	242.	218	19.88	0.26	297.	298.
39	20.76	0.30	150.	120.	99	20.40	0.19	179.	192.	159	19.82	0.02	230.	242.	219	19.92	0.16	77.	298.
40	20.11	0.19	256.	120.	100	19.93	0.15	214.	193.	160	18.60	0.85	262.	242.	220	20.91	-0.12	48.	301.
41	19.68	0.26	205.	124.	101	20.31	0.19	142.	194.	161	20.43	0.29	52.	243.	221	19.01	0.91	43.	302.
42	20.40	0.20	295.	127.	102	20.88	0.28	32.	194.	162	20.47	0.37	286.	245.	222	20.80	0.47	60.	302.
43	21.06	0.38	144.	129.	103	20.04	0.28	197.	195.	163	21.09	0.47	258.	245.	223	18.91	0.18	99.	304.
44	21.14	0.27	118.	130.	104	19.05	0.83	226.	196.	164	18.46	0.39	277.	247.	224	20.61	0.26	49.	306.
45	19.32	0.30	82.	131.	105	19.90	0.23	207.	198.	165	20.69	0.46	297.	248.	225	19.40	0.34	104.	306.
46	20.71	0.34	25.	132.	106	18.37	1.03	185.	199.	166	18.98	0.29	96.	249.	226	20.12	1.31	90.	308.
47	20.75	0.32	137.	132.	107	20.70	0.36	132.	199.	167	19.60	0.12	279.	249.	227	19.12	0.94	55.	309.
48	20.81	0.29	124.	134.	108	19.14	0.78	180.	199.	168	19.57	0.42	73.	250.	228	20.26	1.15	56.	310.
49	19.50	0.24	115.	134.	109	20.39	0.27	32.	199.	169	20.20	0.99	47.	250.	229	18.37	0.81	113.	312.
50	19.27	0.28	218.	135.	110	18.98	0.34	137.	200.	170	18.56	0.23	246.	251.	230	18.90	0.94	254.	312.
51	21.62	-0.41	58.	140.	111	19.81	0.36	179.	202.	171	19.82	-0.31	93.	251.	231	19.53	0.15	82.	314.
52	20.87	0.34	37.	140.	112	20.66	0.28	58.	203.	172	20.09	-0.03	72.	252.	232	21.01	0.03	248.	316.
53	21.84	0.40	42.	141.	113	20.33	-0.01	209.	207.	173	18.91	1.08	108.	254.	233	18.82	0.82	225.	317.
54	19.78	0.19	58.	148.	114	18.94	0.21	84.	208.	174	20.61	0.35	82.	254.	234	18.47	0.82	275.	317.
55	21.64	0.12	281.	151.	115	20.60	0.03	229.	208.	175	19.79	0.15	301.	255.	235	19.63	0.24	264.	317.
56	20.34	-0.20	215.	154.	116	20.89	0.18	226.	210.	176	20.04	0.23	45.	257.	236	20.37	0.19	241.	319.
57	19.41	0.14	105.	154.	117	20.40	0.51	204.	210.	177	21.21	0.46	6.	258.	237	20.88	0.52	62.	322.
58	19.57	0.11	219.	155.	118	20.33	-0.08	116.	211.	178	19.97	0.00	113.	259.	238	20.48	0.32	229.	322.
59	20.03	0.14	261.	155.	119	19.02	0.92	235.	212.	179	18.42	0.87	275.	260.	239	18.65	0.14	235.	323.
60	20.51	0.32	283.	156.	120	20.37	0.08	169.	212.	180	20.63	0.57	7.	261.	240	21.50	0.36	82.	324.

Table 16 : continued

STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y	STAR	V	B−V	X	Y
241	19.13	0.89	56.	326.	279	19.02	0.98	119.	350.	317	20.82	0.48	160.	394.	355	17.66	0.81	82.	435.
242	17.31	0.87	262.	329.	280	20.50	0.52	142.	350.	318	21.27	0.54	188.	394.	356	19.59	0.14	195.	436.
243	18.87	0.86	87.	329.	281	19.60	0.81	170.	351.	319	22.05	0.42	29.	395.	357	20.47	0.31	138.	436.
244	18.48	0.49	243.	330.	282	19.10	0.24	178.	351.	320	20.48	0.15	190.	396.	358	19.92	2.21	156.	438.
245	21.14	0.51	79.	331.	283	19.44	0.17	202.	352.	321	19.39	0.18	109.	397.	359	20.55	0.44	265.	439.
246	19.36	0.25	60.	331.	284	19.00	0.27	136.	353.	322	20.42	0.57	152.	399.	360	19.64	0.12	160.	439.
247	20.38	0.39	128.	332.	285	18.58	0.62	169.	353.	323	19.43	0.38	43.	399.	361	19.82	0.12	266.	442.
248	18.95	0.24	274.	332.	286	20.18	-0.16	165.	354.	324	20.92	0.40	26.	399.	362	20.05	0.36	186.	446.
249	18.87	0.87	44.	334.	287	21.07	0.19	56.	354.	325	19.94	0.19	286.	403.	363	18.71	0.95	9.	448.
250	19.11	0.17	207.	334.	288	20.49	0.38	41.	355.	326	20.79	0.31	145.	403.	364	18.60	1.01	188.	449.
251	20.92	0.89	55.	334.	289	19.88	0.51	77.	355.	327	20.06	0.25	162.	404.	365	20.64	0.52	38.	450.
252	20.38	0.35	125.	334.	290	18.69	0.90	150.	356.	328	19.83	0.26	113.	405.	366	20.10	0.20	159.	453.
253	20.52	0.29	295.	335.	291	19.56	0.23	98.	356.	329	19.77	0.27	280.	406.	367	20.37	0.25	121.	457.
254	19.36	0.06	127.	336.	292	18.74	0.91	137.	359.	330	20.63	-0.03	226.	407.	368	20.15	0.25	292.	461.
255	21.28	0.58	281.	337.	293	18.38	0.97	199.	359.	331	19.40	0.29	128.	408.	369	20.92	0.18	173.	461.
256	20.21	0.19	42.	337.	294	18.50	1.00	128.	360.	332	19.68	0.20	223.	408.	370	22.68	0.76	176.	462.
257	20.97	0.49	104.	338.	295	18.50	0.80	196.	360.	333	18.40	1.50	248.	408.	371	21.13	0.55	170.	462.
258	19.50	0.14	126.	339.	296	20.78	0.40	266.	364.	334	18.46	0.72	42.	411.	372	18.27	1.33	203.	465.
259	19.17	0.20	129.	339.	297	20.09	0.34	147.	364.	335	19.86	0.25	195.	412.	373	18.68	0.94	125.	469.
260	19.67	0.30	213.	340.	298	19.83	0.22	255.	365.	336	20.12	0.10	127.	412.	374	20.15	0.82	269.	470.
261	20.40	0.42	146.	340.	299	18.89	0.85	84.	365.	337	18.72	0.11	203.	414.	375	18.94	0.91	29.	471.
262	19.09	0.15	182.	341.	300	18.95	1.01	79.	368.	338	20.74	0.03	139.	415.	376	19.22	1.04	44.	474.
263	20.86	0.46	35.	341.	301	19.27	0.22	93.	370.	339	20.87	0.36	125.	415.	377	21.42	0.61	83.	475.
264	20.79	0.51	7.	341.	302	18.97	0.20	57.	372.	340	18.41	0.91	107.	415.	378	20.18	0.23	113.	477.
265	18.34	0.63	155.	341.	303	20.07	0.25	84.	375.	341	21.43	0.55	185.	415.	379	19.77	0.19	90.	479.
266	20.22	0.35	93.	342.	304	19.88	0.43	214.	376.	342	19.23	0.18	223.	416.	380	20.42	0.31	156.	480.
267	20.77	0.32	48.	343.	305	19.95	0.20	74.	378.	343	20.44	0.32	198.	418.	381	18.26	1.27	119.	486.
268	20.69	0.39	90.	343.	306	15.91	1.13	203.	379.	344	20.53	0.75	138.	418.	382	20.72	0.57	281.	487.
269	20.87	0.48	251.	344.	307	19.28	0.21	157.	381.	345	17.18	1.24	160.	419.	383	20.36	0.21	119.	489.
270	20.06	0.28	287.	344.	308	18.98	0.31	220.	381.	346	20.52	0.29	230.	419.	384	18.64	0.80	247.	493.
271	18.93	0.71	171.	345.	309	19.68	0.86	33.	381.	347	20.81	0.56	25.	419.	385	19.16	0.28	147.	494.
272	21.09	0.76	212.	345.	310	19.19	0.86	234.	383.	348	19.76	0.52	202.	420.	386	20.71	0.38	81.	495.
273	18.41	0.20	101.	346.	311	20.10	0.19	124.	384.	349	20.63	0.35	182.	422.	387	17.83	1.11	19.	497.
274	19.87	0.23	256.	346.	312	21.38	0.49	229.	389.	350	20.84	0.70	306.	425.	388	19.86	0.21	122.	498.
275	21.36	0.17	81.	347.	313	20.07	0.29	152.	390.	351	20.86	0.22	299.	426.	389	18.28	0.78	177.	500.
276	19.68	0.14	88.	347.	314	19.71	0.14	270.	391.	352	20.22	0.28	205.	428.	390	18.59	0.84	287.	501.
277	20.84	0.21	63.	348.	315	20.78	0.57	277.	392.	353	20.15	0.35	280.	429.	391	20.58	0.38	175.	507.
278	18.92	0.14	183.	348.	316	18.70	0.93	214.	393.	354	20.91	-0.14	196.	433.					