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GALACTIC STRUCTURE AND STAR FORMATION
IN THE VICINITY OF H II REGION SH2-205

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GALAKTIKOS STRUKTŪRA IR ŽVAIGŽDĖDARA
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Introduction

The Milky Way (our Galaxy) is a huge system that consists of 100–400 billion stars, interstellar gas, interstellar dust, cosmic rays, electromagnetic radiation, interstellar magnetic field, gravitational field, dark matter particles. In spiral galaxy like the Milky Way, most of the dust and gas is found within relatively thin disk with a thickness of a few hundred pc and within this disk nearly all of the star formation takes place.

Among the least investigated directions in the Milky Way are dark clouds in the Camelopardalis constellation. The distances to these clouds and interstellar extinction are known with a low accuracy and only in some occasional directions (Zdanavičius et al. 2001).

A few years ago Straizys & Laugalys (2007a, 2008) described a ring-like concentration of dust clouds located at the border of the Perseus, Camelopardalis, and Auriga constellations, which is perfectly seen in the Dobashi et al. (2005) atlas of dark clouds (Fig 0.1).

This ring includes the following Tokyo clouds: 942 (P7, P8), 994, 1003, 1036, 1041, 1027, 1014, 1006, 989 and contains 10 Cam OB1 association members, some young variable stars and H α emission stars. The ring has a diameter of $\sim 8^\circ$ and is centred on the open cluster NGC 1528. Trying to test physical reality of this dust ring, we decided to investigate distances to its clouds and their extinction properties in three selected dust ring areas (1.5 square degree each). The method of investigation is based on photometry of stars in the Vilnius seven-colour system, determination of their spectral and luminosity classes, reddening, extinction and distances.

A curved $\sim 5^\circ$ -long chain of dark clouds, located westwards from the quadruple star 1 Cam (DL Cam, HD 28446), was described in the Barnard (1927) catalogue and atlas of dark clouds (clouds B8, B9, B11, B12). Barnard writes that this chain of dark clouds breaks up into more or less separate spots, “somewhat resembling those at the east end of the great lane from Rho Ophiuchi”. Again, dust clumps of this chain appear in the catalogues of dark clouds by Lynds (1962), Taylor et al. (1987), Dutra & Bica (2002), Dobashi et al. (2005), and Dobashi (2011). Unfortunately, it is not easy to cross-identify separate clouds in different catalogues since their boundaries usually remain undefined. The present investigation covers the clump P1 of the cloud TGU H994 (Dobashi et al. 2005), which includes the Barnard cloud B11 and the Lynds clouds LDN 1399, LDN 1400, and LDN 1402.

Until now these clouds were investigated in the molecular bands: CO (Dickman 1975; Snell 1981; Myers & Benson 1983; Taylor et al. 1987; Dame et al. 1987, 2001; Park et al. 2004; Wu et al. 2012), H₂CO (Dieter 1973; Minn & Greenberg 1973; Sandqvist et al. 1988; Clark 1991), NH₃ (Myers & Benson 1983; Benson & Myers 1989; Clark 1991), CS, and N₂H (Lee & Myers 1999). The local standard of rest (LSR) velocity of these clouds is 2–4 km/s. Myers & Benson (1983) identified a group of visually opaque gas and dust condensations in the cloud LDN 1400 and the

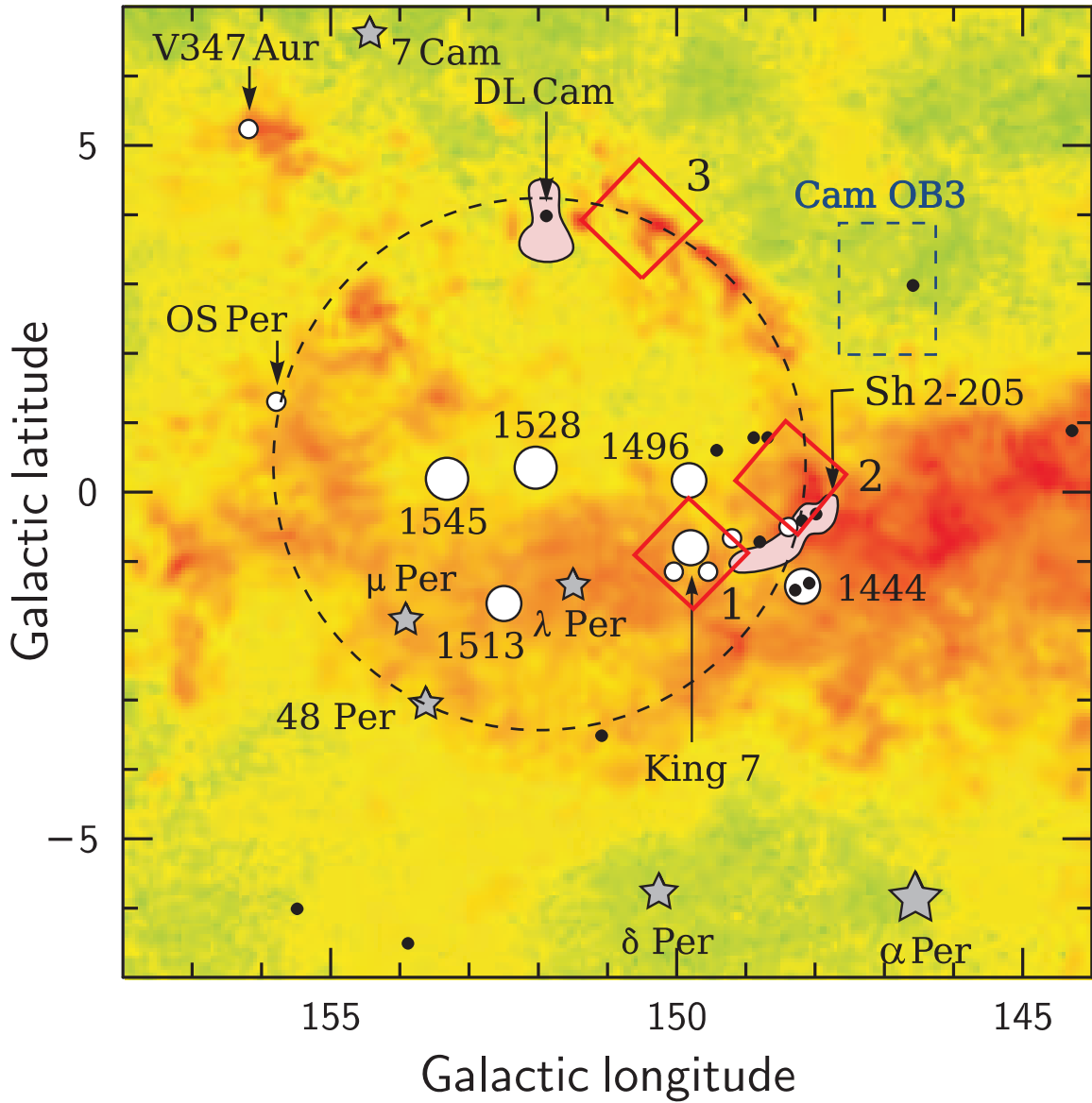


Figure 0.1.: Dust clouds in Camelopardalis from Dobashi et al. (2005). Three areas selected for investigation in this thesis are marked by squares. White large circles designate positions of open clusters, whose NGC numbers are indicated.

surrounding clouds, named cores, which are the supposed progenitors of young stars. Some of these objects are included in the catalogue of optically selected cores by Lee & Myers (1999). They were also observed with the Planck and Herschel observatories in the submillimeter and the far-infrared spectral regions (Juvela et al. 2012). About 30 far-infrared sources in the area of LDN 1400 and other nearby clouds were identified in the IRAS point-source catalogue by Clark (1991). Harjunpää et al. (1999) investigated polarization of stars in some directions of the LDN 1400 complex.

Distances to the chain clouds are known with a very low accuracy. The first estimate of their distance was probably published by Snell (1981). As the author explains, the estimate was done from the interstellar extinction A_V vs. distance d plot constructed for the stars with known B, V photometry and MK spectral types in a $20^\circ \times 20^\circ$ region centred on the cloud. Although a value of $d = 170$ pc has been attributed to a small cloud in the group (LDN 1407, the size $8' \times 8'$), actually this distance can be related to a much larger cloud complex. However, this distance should be of low accuracy since the stars with B, V photometry and MK spectral types in this region are rather scarce. This distance value (with nothing better available) has been used for decades in many investigations of the dust and molecular clouds in the whole chain. For the group of the chain clouds around LDN 1394, a distance value of 0.66 kpc was obtained by Juvela et al. (2012) applying a statistical method based on the Besancon (Robin et al. 2012) stellar population synthesis model and the 2MASS photometry data¹.

In several directions of the Camelopardalis dark clouds, the interstellar extinction was investigated by Zdanavičius et al. (1996, 2001); Zdanavičius & Zdanavičius (2002a,b, 2005); Zdanavičius et al. (2005) using seven-colour photometry in the Vilnius system and photometric classification of stars in spectral and luminosity classes. A common property of all areas is the extinction rise at 120–150 pc, reaching A_V about 1.5–2.5 mag at 1 kpc. Thus, the Camelopardalis clouds are located almost at the same distance as the Taurus-Auriga star-forming region; see also the review article in the “Handbook of Star Forming Regions” (Vol. 1) by Straižys & Laugalys (2008).

Distances to dust clouds can be also estimated from interstellar line intensities observed in the spectra of foreground stars and the stars immersed in the cloud, usually of spectral classes B and A. The most detailed investigations of interstellar Na I D lines and Ca II H+K lines in the solar vicinity were published by Welsh et al. (1994), Sfeir et al. (1999), Vergely et al. (2001, 2010), Lallement et al. (2003, 2014), Welsh et al. (2010) using the Hipparcos distances. In the general direction of Taurus and Auriga, the concentration of neutral gas is seen in the 80–150 pc distance range that can be associated with the boundary wall of the rarefied local cavity region around the Sun.

The TGU 994 P1 cloud is covered by one of the fields of the APOGEE² spectral survey (Bovy et al. 2014) of red clump giants (RCGs). From 155 RCGs in the field, 30 are located within our area. These stars are important tracers of the extinction at large distances, but they are lacking at the distances of cloud LDN 1400.

According to Dame et al. (1987, 2001), column densities and radial velocities of CO in some direc-

¹ In Table 1 of Juvela et al. (2012), the identification of the cloud LDN 1400 is not correct. It is located in the same area, called G150.47+3.93, as the LDN 1399 cloud.

² Apache Point Observatory Galactic Evolution Experiment

tions of the 2nd galactic quadrant exhibit two distinct layers at 800 pc and 300 pc from the Sun. The more distant layer, with the LSR velocity -12 km/s, is related to the chain of OB associations at the outer edge of the Local Arm belonging to the Gould Belt. The closer layer with LSR velocity close to zero is related to the expanding gas ring discovered by Lindblad et al. (1973) from observations of neutral hydrogen; see also Lindblad (1974). In the direction of Cam-Per-Tau the Lindblad Ring can be also related to the Per OB3 (or α Per) association ($d = 177$ pc) and the Cas-Tau moving group of B-type stars (d from 125 to 300 pc); the distances are from de Zeeuw et al. (1999).

The H II region Sh2-205 (Sharpless 1959) is the brightest northern clump of a large H II region at the Perseus and Camelopardalis border with a diameter of about $3.5^\circ \times 4^\circ$. The star HD 24431 of spectral class O9 ($V = 6.7-6.8$ mag), located close to its center, is considered as the main ionizing source of the nebula. The strongest emission spots in $H\alpha$ are observed around HD 24431 – the nebula [GS55] 34 (Gaze & Shain 1955) and in the northern clump (Sh2-205). It is doubtful that HD 24431 is the only ionizing star of this huge group of nebulae. Since no more O-type stars were known in the vicinity, the following early B-type stars have been considered: HD 23675 (B0 III), ALS 7793 (B1 V) and HD 24094 (B1 III), see Avedisova & Kondratenko (1984); Foster & MacWilliams (2006); Romero & Cappa (2008). The last star is at the center of the H II region Sh2-205, its spectral type is B1 III (Bouigue 1959), B2 τ (Rydström 1978), B1 IV (Zdanavičius et al. 2001), B1 V (De Cat et al. 2007).³ Different spectral classes are given in the HD catalogue, B8, and by Johnson (1956), B6. In these cases the star might be misclassified because of interstellar Ca II lines, or maybe its spectrum is variable. The star is known to have variable brightness; in the General Catalogue of Variable Stars its name is CY Cam, the amplitude is about 0.1 mag and the period is 1.05 d. It can be either a β Cephei pulsating star or a contact eclipsing binary of type EW (Duerbeck 1997; De Cat et al. 2007).

Distances to the H II region Sh2-205 and its southern extension, [GS55] 34, are known with a low accuracy. All the authors agree that HD 24431 is of spectral class O9, but the luminosity class of the star is rather uncertain: V (Conti & Alschuler 1971), IV-V (Morgan et al. 1953), III (Sota et al. 2011). This places the star (and the H II region) somewhere between 650 and 950 pc from the Sun. The star is a close binary (WDS J03556+5238 AB, $\Delta m = 3$ mag, sep = $0.7''$), and this can be the reason of luminosity errors. Kinematic distances to the nebulae, determined from radial velocities of $H\alpha$, HI or CO lines in the related clouds, combining them with the rotation curve of the Galaxy, are even more contradictory (Blitz et al. 1982; Fich & Blitz 1984; Fich et al. 1990; Foster & MacWilliams 2006; Foster & Brunt 2015).

In the vicinity of the H II region, as well as to north-east of its northern part, a number of dark clouds are observed. In the Dobashi et al. (2005) atlas and catalogue of dark clouds they are named as the P7 and P8 clumps of the cloud TGU H942. These clumps are parts of the dust ring of a diameter of 8° located at the edge of the Camelopardalis and Perseus constellations, identified by Straižys & Laugalys (2007a, 2008). The clump P8 is located between the Sh2-205 and [GS55] 34

³ The last two spectral types are determined from multicolour photometry in the Vilnius and Geneva photometric systems, respectively.

nebulae, while the clump P7 is located about 0.4° north-east from the northern edge of Sh2-205. Within these clumps and in their vicinities Dobashi (2011) has identified 14 smaller dust clouds on the basis of reddening and extinction of stars present in the 2MASS catalogue. Probably, most of these dust clouds (if not all) are located in the gas and dust complex to which the Sh2-205 nebula belongs. Thus, the investigation of distances to the dark clouds may help to find a more reliable distance to the nebula.

Photoelectric photometry of stars in the wide vicinity of Sh2-205 in the Vilnius seven-colour system has been started by Zdanavičius et al. (2001) and Zdanavičius & Zdanavičius (2002a) having the aim to determine distance to the Camelopardalis complex of dark clouds.

King 7 (King 1949) is a Hyades-age open cluster at $\alpha(2000) = 03^{\text{h}}59^{\text{m}}$, $\delta(2000) = +51^\circ48'$; $\ell = 149.77^\circ$, $b = -1.02^\circ$ near the Perseus and Camelopardalis border, between the H II regions Sh2-205 and Sh2-206 = NGC 1491 (Sharpless 1959). It is an object of the Perseus spiral arm at a distance of 1.9–2.2 kpc (Durgapal et al. 1996, 1997; Bukowiecki & Maciejewski 2008; Kharchenko et al. 2013). Its ionizing star is BD+50 886 ($V = 11.22$, spectral class O5 or O6).

In the 1.5×1.5 degree area centered on King 7 (Fig. 1.5), five more possible open clusters have been detected: BDS 61 (Bica et al. 2003), Juchert 19 (Kronberger et al. 2006), FSR 0660 or Majaess 41 (Froebrich et al. 2007ab), C440 and C441 (Camargo et al. 2015). The first of these clusters is located inside the H II region Sh2-206. All are heavily reddened clusters discovered in images of the 2MASS and WISE infrared surveys.

In the area of $1.5^\circ \times 1.5^\circ$ around King 7, several dark clouds are identified. In the Dobashi et al. (2005) atlas and catalogue of dark clouds they are named as the P2 ($8' \times 10'$) and P3 ($20' \times 22'$) clumps of the cloud TGU H989. The Dobashi (2011) catalogue shows a small dense cloud Dobashi 4059 ($5' \times 5'$) which almost coincides with P2. These clouds are parts of the dust ring of a diameter of 8° located at the border of the Camelopardalis and Perseus constellations, identified by Straizys & Laugalys (2007a, 2008). In the Planck Cold Core catalogue (Planck Collaboration VII, 2011), which includes cold and dense condensations of the interstellar medium, we find one object in the vicinity of King 7 – a dense core PLCKECC G149.52-01.23, which coincides with the TGU H989 P2.

Except of Sh2-206, there is another H II region in the area: Anderson et al. (2015) have identified a distant H II region G149.746-00.199 located at about 12.5 kpc from the Sun. It is well seen in all IRAS and WISE images. Two reflection nebulae are present in the area: GN 03.53.0 (in the direction of the dark cloud TGU H989 P3 center) and GN 03.56.2 (in the direction of the Camargo 440 cluster (Magakian 2003).

In the broad vicinity of King 7, Zdanavičius et al. (2001) and Zdanavičius & Zdanavičius (2002a) have obtained photoelectric photometry of about 450 stars down to $V \approx 12.5$ mag in the Vilnius seven-colour system. The results of photometry were used to determine distances to the Camelopardalis complex of dark clouds (Zdanavičius & Zdanavičius 2002b).

Publications on the subject of the dissertation

1. Zdanavičius J., Čepas V., Zdanavičius K., Straižys V., 2010, *Wide field multicolor CCD photometry in the vicinity of the open cluster King 7*, *Baltic Astronomy*, Vol. 19, 197–224. The catalog of the results of Maksutov photometry, interstellar extinctions and distances for 1549 stars in the vicinity of King 7 is available at Strasbourg astronomical Data Center (CDS) via <http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/BaltA/19/197/table3>.
2. Čepas V., Zdanavičius J., Zdanavičius K., Straižys V., Laugalys V., 2013, *Seven-color Photometry and Classification of Stars in the Vicinity of the Emission Nebula Sh2-205*, *Baltic Astronomy*, Vol. 22, 223–242. The catalog of the results of Maksutov photometry and classification for 922 stars in the vicinity of H II region Sh2-205 is available at Strasbourg astronomical Data Center (CDS) via <http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/BaltA/22/223/table3>.
3. Čepas V., Zdanavičius J., Zdanavičius K., Straižys V., Laugalys V., 2013, *Seven-color Photometry and Classification of Stars in the Vicinity of the Dark Cloud TGU H994 (LDN 1399, LDN 1400 and LDN 1402)*, *Baltic Astronomy*, Vol. 22, 243–258. The catalog of the results of Maksutov photometry and classification for 727 stars in the vicinity of dark cloud TGU H994 P1 is available at Strasbourg astronomical Data Center (CDS) via <http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=J/BaltA/22/243>.
4. Straižys V., Čepas V., Kazlauskas A., Zdanavičius K., Boyle R. P., Munari U., Zdanavičius J., Maskoliūnas M., 2016, *The dark cloud TGU H994 P1 (LDN 1399, LDN 1400, and LDN 1402): Interstellar extinction and distance*, *Astronomy & Astrophysics*, Vol. 585, A31. The catalog of the results of VATT photometry and classification for 855 stars in the vicinity of dark cloud TGU H994 P1 is available at Strasbourg astronomical Data Center (CDS) via <http://vizier.u-strasbg.fr/viz-bin/VizieR?-source=J/A>
5. Straižys V., Čepas V., Boyle R. P., Zdanavičius J., Maskoliūnas M., Kazlauskas A., Zdanavičius K., Černis K., 2016, *Dark clouds in the vicinity of the emission nebula Sh2-205: interstellar extinction and distances*, *Astronomy & Astrophysics*, Vol. 590, A21. The catalog of the results of VATT photometry and classification for 302 stars in the vicinity of H II region Sh2-205 and the catalog of identified 88 YSOs in the area are available at Strasbourg astronomical Data Center (CDS) via [http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/A](http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/Ahttp://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/A)

Presentations at international conferences

1. Čepas V., Zdanavičius J., Zdanavičius K., Straižys V. *Galactic structure and star formation in the vicinity of emission nebulae Sh2-205 & DL Cam*, International workshop “Current status of stellar photometry in the Vilnius photometric system“, Krakow (Poland), 10–14 September, 2012 (oral presentation)

2. Čepas V. *VATT Observations in the Vicinity of Dust Ring in Camelopardalis*, International workshop "Interstellar extinction in the selected dust clouds and star forming regions", Molėtai Observatory (Lithuania), 3–7 September, 2013 (oral presentation)
3. Čepas V., Boyle R. P., Zdanavičius J., Zdanavičius K., Straižys V., Laugalys V. *Dust ring at the Camelopardalis and Perseus border*, American Astronomical Society 223 meeting, Washington DC (USA), 5–9 January, 2014 (poster presentation)
4. Čepas V., Straižys V., Kazlauskas A., Zdanavičius K., Boyle R. P., Munari U., Zdanavičius J., Maskoliūnas M. *Progress report of investigation of dark clouds and star formation activity in Camelopardalis dust ring: The dark cloud TGU H994 P1* International workshop "Science results from Vilnius calibrated Photometry", Vatican observatory (Castel Gandolfo, Rome, Italy), 8–10 September, 2015 (oral presentation)

Aim of the study

The main aim of this work is a comprehensive photometric investigation of the Milky Way region located at the Perseus and Camelopardalis border (Galactic longitude 147° – 157° , latitude from -5° to $+5^{\circ}$) in order to determine distances to the dust clouds and star formation activity in them.

Tasks of the study

1. CCD photometry of stars in a 1.5 square degree field in the vicinity of the dark cloud TGU H994.
2. CCD photometry of stars in a 1.5 square degree field in the vicinity of the H II region Sh2-205 (cloud TGU H942 area).
3. CCD photometry of stars in a 1.5 square degree field around open cluster King 7 (cloud TGU H989 area).
4. Two-dimensional photometric classification, determination of interstellar extinction and distance for the observed stars.
5. Determination of distances to dust clouds in the investigated areas.
6. Search for Young Stellar Objects (YSOs) in the investigated areas.

Scientific novelty

1. For about 4200 stars located in the region of a dust ring of a diameter of $\sim 8^{\circ}$, centered on the open cluster NGC 1528 multicolor photometry and two-dimensional spectral classification have been done for the first time.
2. The distribution of interstellar dust versus distance in different parts of investigated areas is provided.
3. Interstellar extinction and distances for 3313 stars and dark clouds are determined.

4. 96 new YSOs are identified in the investigated areas.
5. A new infrared cluster SCB 1 was discovered.

Practical importance

The distances to dust clouds that comprise the dust ring described in Straizys & Laugalys (2007a, 2008) were poorly known. The results of this work allowed to get reliable distances to investigated dust clouds. The results of photometry and two-dimensional stellar classification of stars are available at the CDS. Our results will be important addition to astrometric data which will be obtained by the Gaia space observatory of ESA. The use of photometric data together with the Gaia parallaxes will increase accuracy of distances to dust clouds and the location of Galactic spiral arms in the anticenter direction.

Results and statements presented for defence

1. The dark cloud TGU H994 is located at a distance of 140^{+36}_{-31} pc.
2. The dark cloud TGU H942 located in the vicinity of H II region Sh2-205 is composed of two layers – one located at 130^{+35}_{-27} pc, second at 500–600 pc.
3. The dust cloud TGU H989 located in the vicinity of open cluster King 7 is composed of at least two layers - one is located at a distance of 250^{+65}_{-52} and the second – at 1.3–1.5 kpc.
4. 118 (96 newly identified) YSOs show that active star formation is present H II region Sh2-205 and cluster King 7 areas.
5. A new infrared cluster SCB 1 was discovered in the vicinity of H II region Sh2-205.

Personal contribution

The author has chosen the optimum boundaries of the investigated areas, took part in most CCD observations at the Moletai Observatory (Lithuania) and Mount Graham International Observatory (USA). The author also took part in the reduction of CCD data, photometric classification of stars, the interstellar extinction analysis, the literature analysis and the preparation of all published articles. Personal contribution of the author to the results and publications presented in this thesis is no less than 50 percent.

Thesis outline

The dissertation consists of Introduction, five chapters, Conclusions, References, and Appendix.

Chapter 1 presents the description of observational material obtained with the Maksutov and VATT telescopes.

Chapter 2 describes the methods used for two-dimensional classification of stars.

Chapter 3 describes the method used for the determination of Interstellar extinction and distances to dust clouds.

Chapter 4 deals with star formation activity in the investigated areas.

Chapter 5 provides the data analysis and the results in the investigated fields and compares the results with the results obtained by other authors.

Chapter 1

Observational data

Observational data of this work cover three areas in the vicinity of the dust ring, described in Straizys & Laugalys (2007a, 2008) – dark cloud TGU H994 area, H II region Sh2-205 area (vicinity of dark cloud TGU H942 clumps P7 and P8) and star cluster King 7 area (vicinity of dark cloud TGU H989 clumps P2 and P3). Wide field CCD photometry was obtained with the Maksutov 35/51 telescope of the Molėtai Observatory of Vilnius University for three areas (TGU H994, Sh2-205 and King 7). The exposures were acquired in the *Vilnius* system *UPXYZVS* filters with a diameter of 50 mm. The filters *X*, *Y*, *Z* and *S* are interference filters (color glasses are used to remove light outside the transmittance maxima), and the ultraviolet *U* and *P* filters and the green *V* filter are cemented only from color glasses. Additionally, the red leak of the *U* filter is blocked by means of interference coating.

Maksutov telescope is equipped with a VersArray 1300B liquid nitrogen cooled camera. This liquid nitrogen cooled camera has a backside-illuminated 1340×1300 pixel chip (pixel size $20 \times 20 \mu\text{m}$) with Unichrom UV-enhancement coating (see Zdanavičius & Zdanavičius 2003 for details). In the telescope focus, the image scale is $3.38''$ per pixel, which gives a sky coverage of $1.26^\circ \times 1.22^\circ$. To exclude the influence of some defective pixels, part of the exposures were taken with a slight (about 30 pixels) shifts in *x* and *y* directions.

Deeper photometry in the same system but in smaller areas was obtained with the 1.8 m VATT telescope of the Vatican Observatory in Mount Graham International Observatory (Arizona) USA in the areas of the dark cloud TGU H994 and the H II region Sh2-205. The telescope is equipped with a 4K backside illuminated CCD camera and liquid nitrogen cooling. The camera contains a 62×62 mm chip which gives a $13'' \times 13''$ field of view, with a scale of $0.38''$ per pixel (binned 2×2). Flat-field and bias corrections were applied using the IRAF package¹. To extract the instrumental magnitudes, the aperture photometry mode was used. A detailed description of flatfielding and photometry routines can be found in Zdanavičius et al. (2008).

Due to low resolution of the Maksutov telescope, a number of stars in the catalogs appear as unresolved or partly resolved visual binaries. Therefore we checked our Maksutov stars by examining their images in the red DSS2 atlas provided by the SkyView Virtual Observatory².

¹ IRAF package (<http://iraf.noao.edu>) is distributed by the National Optical Astronomy Observatory, USA.

² <http://skyview.gsfc.nasa.gov/>

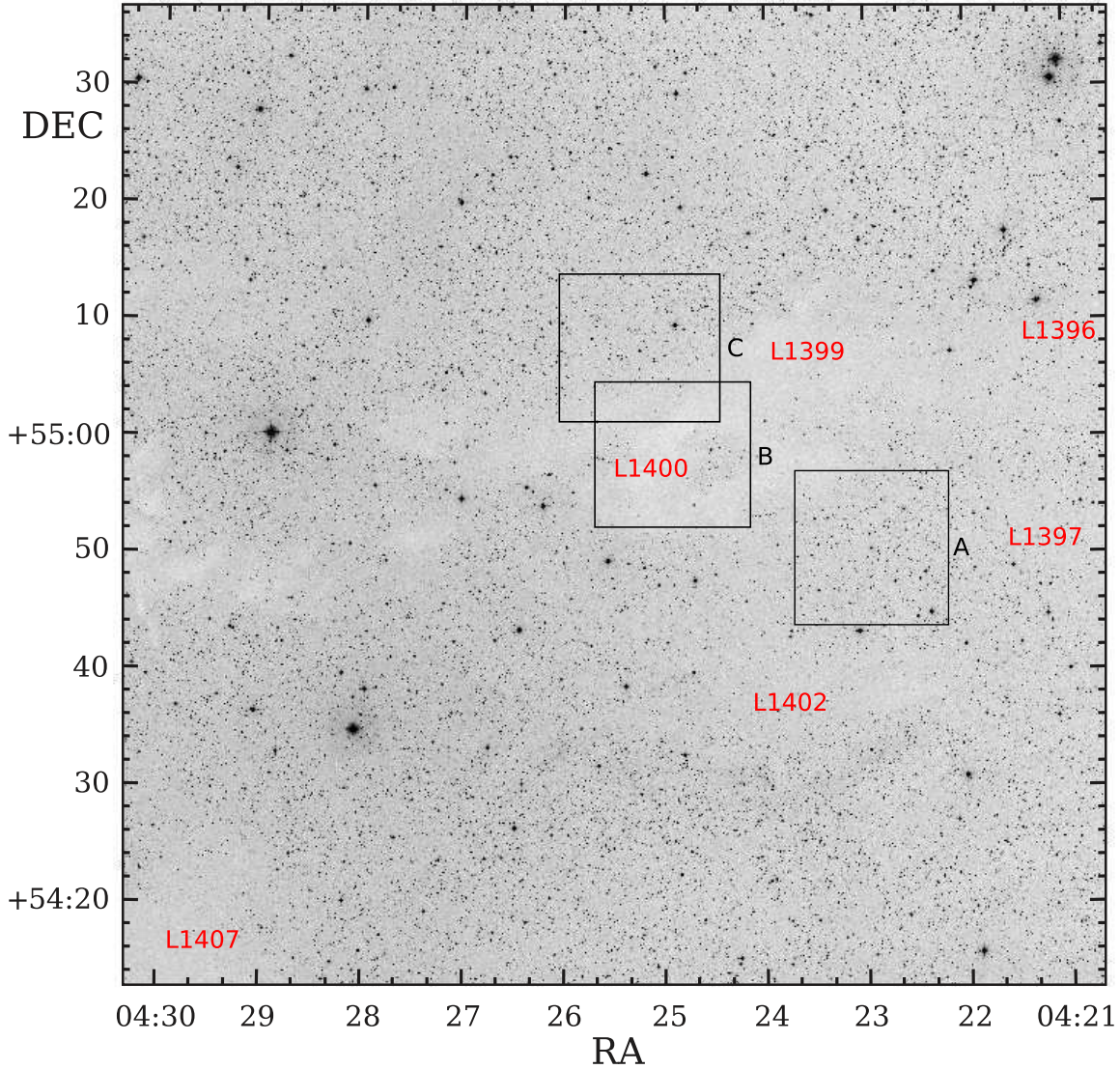


Figure 1.1.: Map with the observed dark cloud TGU H994 P1 area in the red filter (DSS1 Red from the SkyView Virtual Observatory). The three smaller squares were observed with the VATT telescope to fainter magnitudes.

1.1. Dark cloud TGU H994 P1 area

The investigated area (Fig. 1.1), covers 1.5 square degrees with the center at $\alpha(2000) = 04^{\text{h}}25.5^{\text{m}}$, $\delta(2000) = +54^{\circ}55'$; $\ell = 150.53^{\circ}$, $b = +3.96^{\circ}$.

The area includes the dark cloud TGU H994 P1 (Dobashi et al. 2005), also known as LDN 1399, LDN 1400 and LDN 1402 (Lynds 1962). These clouds are a part of the chain of dark clouds from LDN 1387 to LDN 1439 located in the southern Camelopardalis, close to the Perseus border.

1.1.1. Observations with the Maksutov telescope

Seven-color CCD photometry in the area shown in Fig. 1.1 was obtained in October of 2010.

Table 1.1.: Log of Maksutov observations of the dark cloud TGU H994 P1 area. The first two columns give the filter name and its mean wavelength. The numbers of multiple frames with the same exposure length are given in brackets.

Filter	λ_0 nm	min/sec	Exposure length and the number of frames
<i>U</i>	345	min	30 (2), 8 (2), 2 (2) 0.5 (4)
<i>P</i>	374	min	25 (2), 6 (2), 1.5, 1 (5)
<i>X</i>	405	sec	1200 (3), 300 (3), 80 (3), 20 (3), 3
<i>Y</i>	466	sec	420 (2), 120 (2), 30 (2), 7 (2), 5
<i>Z</i>	516	sec	240 (2), 60 (2), 20 (2), 5 (2)
<i>V</i>	544	sec	900 (2), 240 (2), 60 (2), 15 (3)
<i>S</i>	656	sec	240 (2), 60 (2), 20 (2), 5 (2)

Table 1.2.: Internal accuracy of the Maksutov observations of the dark cloud TGU H994 P1 area.

<i>V</i> interval	<i>n</i>	σ_V	σ_{U-V}	σ_{P-V}	σ_{X-V}	σ_{Y-V}	σ_{Z-V}	σ_{V-S}
8.00–9.00	1	0.008	0.014	0.012	0.018	0.013	0.012	0.014
9.00–10.00	5	0.008	0.014	0.011	0.018	0.013	0.012	0.014
10.00–11.00	17	0.008	0.016	0.013	0.018	0.014	0.012	0.015
11.00–12.00	33	0.008	0.021	0.016	0.019	0.014	0.013	0.015
12.00–13.00	63	0.009	0.020	0.016	0.019	0.014	0.014	0.016
13.00–14.00	163	0.010	0.024	0.020	0.021	0.016	0.015	0.019
14.00–15.00	232	0.012	0.034	0.026	0.034	0.023	0.024	0.023
15.00–16.00	136	0.015	0.048	0.034	0.066	0.041	0.031	0.042
16.00–17.00	72	0.020		0.054	0.105	0.037	0.039	0.042
17.00–18.00	5	0.026			0.102	0.054	0.049	0.061

In total, 67 frames of the area (Table 1.1) with different exposure lengths were obtained. Since the investigated area has no photoelectric standards in the Vilnius system, the standard stars from the Sh2-205 area were applied. Short tie-in exposures of both areas in all filters were obtained at nights with stable transparency. The transformation equations to the standard system were the same as in King 7 and Sh2-205 areas.

1.1.2. The catalog

Magnitudes and colors were determined for 727 stars down to $V = 17$ mag. The internal accuracy of the catalog for ten magnitude intervals is given in Table 1.2.

Spectral and luminosity classes are given for the majority of stars down to $V = 16$ mag (Fig. 1.2). The classification methods are described in Chapter II. In calculating of interstellar reddening-free Q -parameters, the normal interstellar reddening law was applied.

The results of photometry and classification are given in Table A.1. The catalog is also accessible at the Strasbourg Data Center. The columns give the following data: star number, equatorial

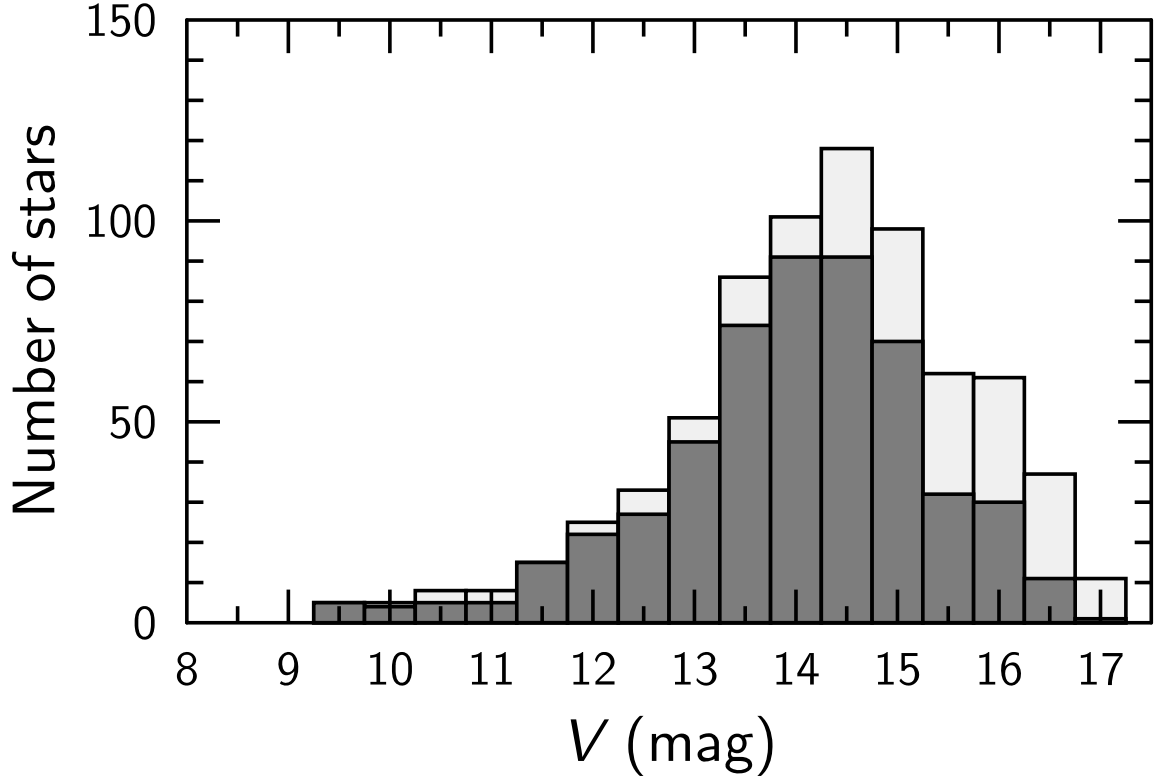


Figure 1.2.: Distribution of the Maksutov measured stars in apparent magnitudes in the dark cloud TGU H994 P1 area. The dark parts of the columns correspond to stars with two-dimensional classification.

coordinates J2000.0 from PPMXL (Roeser et al. 2010), magnitude V , color indices $U-V$, $P-V$, $X-V$, $Y-V$, $Z-V$ and $V-S$, photometric spectral type in the MK system, interstellar extinction A_V and the distance d in pc. The color indices with $\sigma = 0.05-0.10$ mag are marked by colons. In the column of spectral types, optical binaries with separation $<7''$ and the stars with asymmetrical images, i.e., binaries with separation $<2''$, are marked by double asterisks. Spectral classes are given in lower-case letters to indicate that they are determined from photometric data. Some additional information on identification, variability and spectral types, taken from the SIMBAD database and other sources, is given in the notes. The ID numbers of stars having notes at the end of the catalog are marked by asterisks.

1.1.3. Observations with the 1.8 m VATT telescope

Additionally, for the classification of fainter stars down to $V \approx 20$ mag, we applied Vilnius photometry in three $12' \times 12'$ areas located at the edges and within the LDN 1400 cloud. The areas are framed in Fig. 1.1 and their central coordinates are given in Table 1.3.

CCD observations in the Vilnius system were obtained in November and December 2014 and January 2015. In each area we processed about 70 frames obtained with the exposures from 30 minutes to 5 seconds. Instrumental color indices were transformed to the standard system with color equations obtained from observations of the cluster M67 (Laugalys et al. 2004). The stars measured

Table 1.3.: The three $12' \times 12'$ areas observed with the 1.8 m VATT telescope (see Fig. 1.1)

Area	$\alpha(2000)$	$\delta(2000)$	Number of stars
LDN 1400 A	04:22:58	+54:51:24	438
LDN 1400 B	04:24:32	+54:58:41	56
LDN 1400 C	04:25:15	+55:07:08	370

with the Maksutov telescope served as zero-point standards of magnitudes and color indices. All frames were processed with the IRAF program package in the aperture photometry mode.

1.1.4. The catalog

The catalog of photometric data for 855 stars down to $V \approx 20$ mag was compiled and is presented in Table A.2. The catalog is also accessible at the Strasbourg Data Center. The columns provide the same information as in Table A.1. The suspected metal-deficient stars are designated as md:, and the metal-rich stars (Am) as mr:. The coordinates are from the PPMXL catalogue (Roeser et al. 2010) rounded to two decimals of time second and to one decimal of arcsecond.

The r.m.s. errors of the magnitudes V and color indices $X-V$, $Y-V$, $Z-V$ and $V-S$ down to $V = 16$ mag are usually lower than 0.02 mag, and the errors of $U-V$ and $P-V$ are approximately twice as large. At $V > 19$ mag, the accuracy of photometry in the ultraviolet, especially for heavily reddened stars, is too low for reliable classification of stars earlier than K. For most of these stars the $U-V$ and $P-V$ color indices are not given. Color indices with $\sigma = 0.05-0.10$ mag are labelled with colons. The stars found to be binaries or having asymmetric images were not classified in luminosity classes, and in the column of spectral types these stars are designated with double asterisks.

1.2. H II region Sh2-205 area

The center of the second investigated area (Fig. 1.3), is at $\alpha(2000) = 03^{\text{h}}57.0^{\text{m}}$, $\delta(2000) = +53^{\circ}40'$; $\ell = 148.34^{\circ}$, $b = +0.21^{\circ}$. It covers partly the northern end of the Sh2-205 nebula. This nebula is located at a distance of about 1.0 kpc and belongs to the Local arm. The dust map from Schlegel et al. (1998) shows a very uneven pattern of dust distribution in the area, the densest cloud coincides with the nebula in its western (right-hand) side. According to the atlas of Dobashi et al. (2005), there is one of the clumps of a large dust cloud TGU 942.

This area is a part of the $3^{\circ} \times 4^{\circ}$ size region investigated photoelectrically in the Vilnius system by Zdanavičius et al. (2001). Photoelectric photometry for more stars in the area was published by Zdanavičius & Zdanavičius (2002a,b). The stars from both these papers were used as standards in the present CCD work.

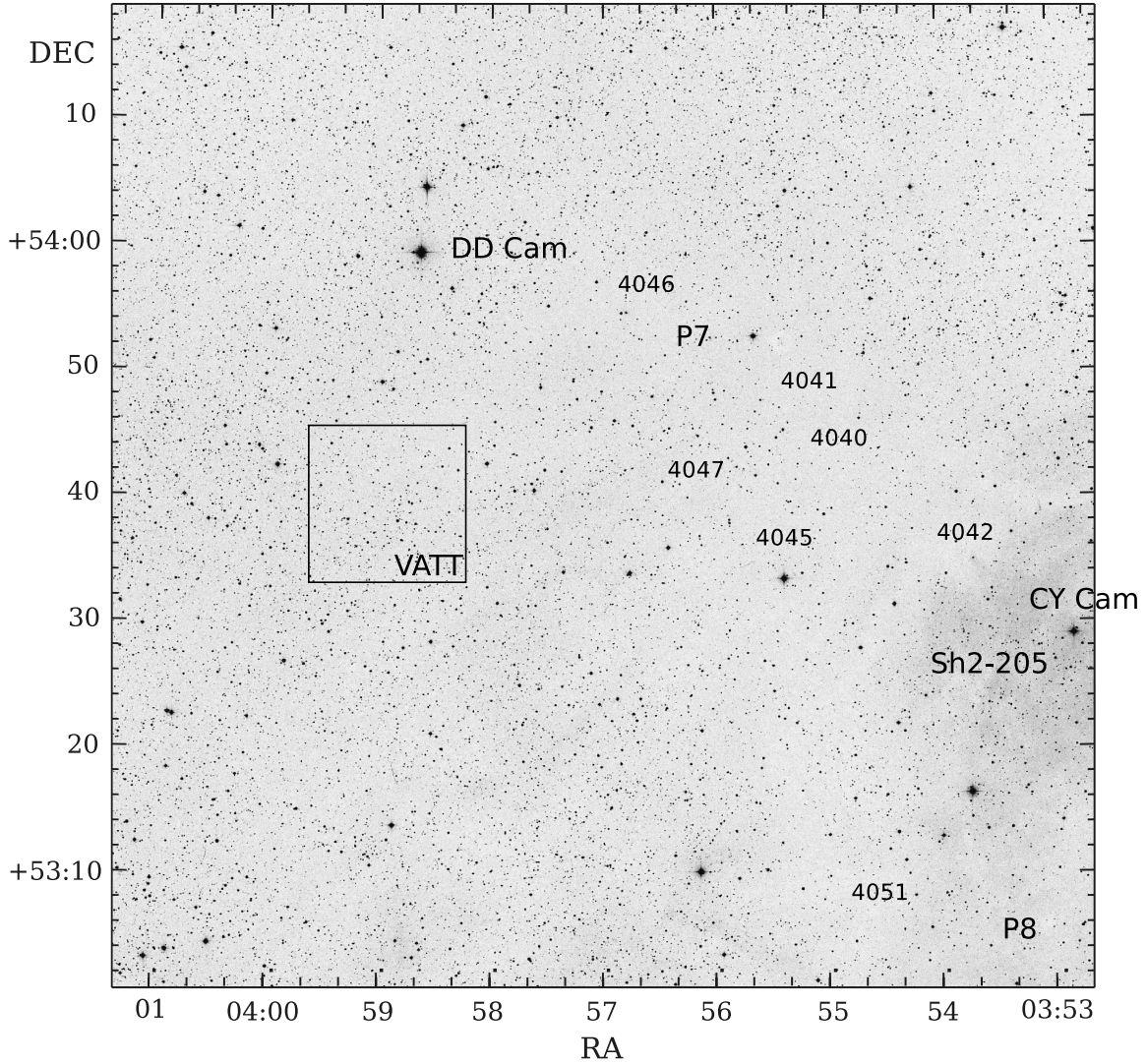


Figure 1.3.: Map with the observed H II region Sh2-205 area in the red filter (DSS1 Red from the SkyView Virtual Observatory). The small square shows the area observed with the VATT telescope to fainter magnitudes. Approximate positions of the northern part of the H II region Sh2-205, the centre of the dark cloud TGU H942 P7 and a part of the cloud TGU H942 P8 are designated. The four digit numbers designate positions of a few clouds identified by Dobashi (2011). The brightest star in the area is an eclipsing variable DD Cam (HD 24733). CY Cam is a possible ionizing star of Sh2-205.

Table 1.4.: Log of Maksutov H II region Sh2-205 observations. The first two columns give the filter name and its mean wavelength. The numbers of multiple frames with the same exposure length are given in brackets.

Filter	λ_0 nm	min/sec	Exposure length and the number of frames
<i>U</i>	345	min	30 (4), 10, 8 (2), 3, 2 (2), 1 (2)
<i>P</i>	374	min	25 (2), 6 (2), 2, 1 (2)
<i>X</i>	405	sec	1200 (2), 300 (2), 60 (2), 15 (2), 10
<i>Y</i>	466	sec	420 (2), 120 (2), 40 (2), 15, 10, 5
<i>Z</i>	516	sec	240 (2), 60 (2), 20 (2), 5 (2)
<i>V</i>	544	sec	900 (2), 240 (2), 60 (2), 15 (2), 10, 7
<i>S</i>	656	sec	240 (4), 60 (4), 20 (4), 5 (4)

1.2.1. Observations with the Maksutov telescope

Seven-color CCD photometry in the area shown in Fig. 1.3 was obtained in October of 2010.

In total, 70 frames of the area with different exposure lengths were obtained (Table 1.4.). The reduction method of the frames was the same as for TGU H994 region.

Zero-points of the transformation equations of instrumental magnitudes and color indices to the standard Vilnius system, were based on 13 stars in the field observed photoelectrically by Zdanavičius et al. (2001) and Zdanavičius & Zdanavičius (2002a,b). As the first stage, the linear transformation equations of magnitudes and color indices to the standard system, determined from observations of the M67 cluster, were applied.

1.2.2. The catalog

Magnitudes and colors were determined for 922 stars down to $V = 17$ mag. The internal accuracy of the catalog is illustrated in Table 1.5, where the mean errors in V and color indices in nine magnitude intervals are given. The table shows that for the stars down to $V = 15$ the errors of $P-V$, $X-V$, $Y-V$, $Z-V$ and $V-S$ do not exceed 0.03, but the accuracy of $U-V$ becomes twice lower. The U and P magnitudes for the faintest stars with V between magnitudes 16.5 and 17 are not given.

Spectral and luminosity classes were estimated for about 85% of stars (Fig. 1.4). The two classification methods, COMPAR and QC0KLAS, are described in Straižys et al. (2013) and Milašius et al. (2013) and in Chapter 2 of this dissertation. In calculating of interstellar reddening-free Q -parameters the normal interstellar reddening law was applied.

The results of photometry and classification are given in Table A.3. The catalog is also accessible at the Strasbourg Data Center. The columns provide the same information as in Table A.1.

At the end of Table we give some additional information on identification, binarity, variability, spectral types, etc., taken from the SIMBAD database and other sources. The running numbers of stars having notes at the end of the catalog are marked by asterisks.

Table 1.5.: Internal accuracy of the H II region Sh2-205 Maksutov photometric catalog.

V interval	n	σ_V	σ_{U-V}	σ_{P-V}	σ_{X-V}	σ_{Y-V}	σ_{Z-V}	σ_{V-S}
8.00–9.00	3	0.009	0.019	0.013	0.018	0.016	0.016	0.019
9.00–10.00	4	0.009	0.015	0.012	0.027	0.014	0.015	0.027
10.00–11.00	12	0.010	0.016	0.015	0.020	0.015	0.015	0.023
11.00–12.00	35	0.008	0.023	0.015	0.018	0.016	0.015	0.026
12.00–13.00	97	0.009	0.021	0.016	0.019	0.015	0.015	0.022
13.00–14.00	176	0.010	0.035	0.023	0.021	0.018	0.018	0.024
14.00–15.00	288	0.011	0.079	0.028	0.023	0.022	0.024	0.027
15.00–16.00	158	0.014	0.090	0.035	0.032	0.023	0.026	0.029
16.00–17.00	149	0.020			0.053	0.034	0.038	0.052

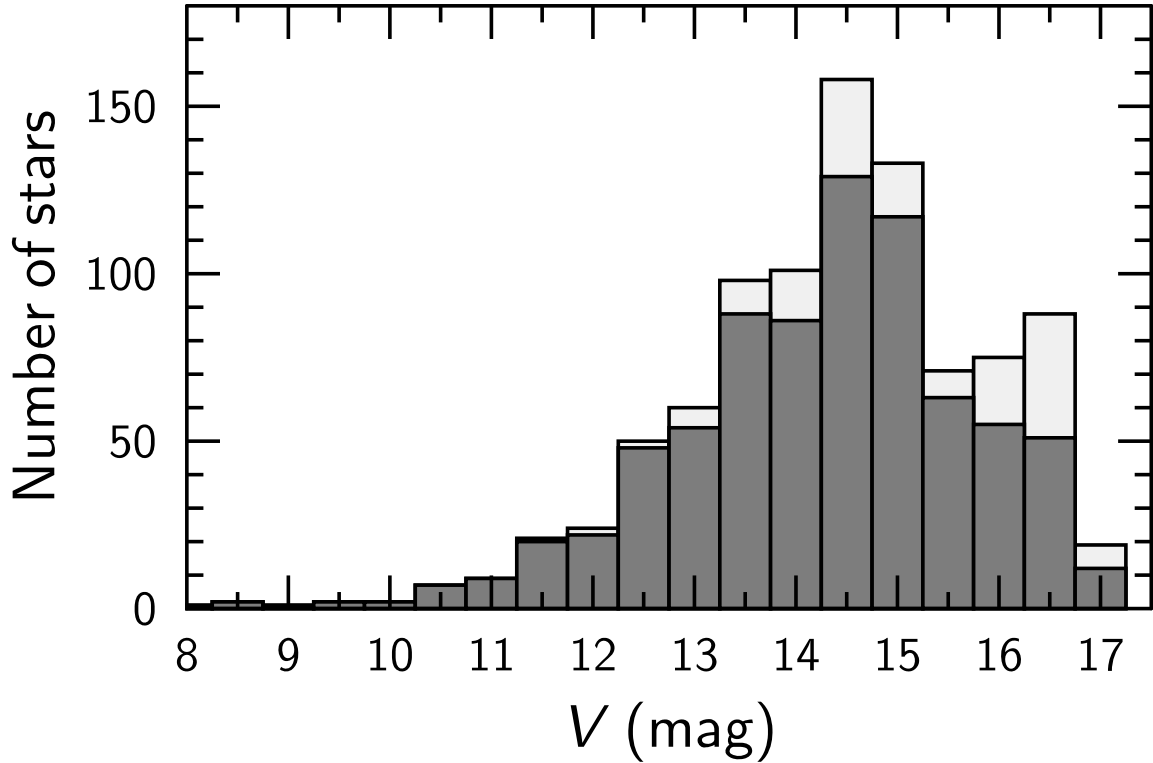


Figure 1.4.: Distribution of the Maksutov H II region Sh2-205 catalog stars in apparent magnitudes. The dark parts of the columns correspond to stars with two-dimensional classification.

1.2.3. Observations with the 1.8 m VATT telescope

For the classification of fainter stars down to $V \approx 19.5$ mag we applied Vilnius photometry in a $12' \times 12'$ area located in a region of intermediate transparency (Fig. 1.3) with the centre coordinates $\alpha(2000) = 03^{\text{h}}58.9^{\text{m}}$, $\delta(2000) = +53^{\circ}39'$; $\ell = 148.56^{\circ}$, $b = +0.38^{\circ}$. CCD observations in the Vilnius system in this area were obtained in December of 2013. 25 frames with exposures from 30 minutes to 6 seconds were processed with the IRAF program package in the aperture photometry mode. Instrumental color indices were transformed to the standard system with color equations obtained from observations of the cluster M67 (Laugalys et al. 2004). The stars measured with Maksutov telescope served as zero-point standards of magnitudes and color indices.

1.2.4. The catalog

The catalog of photometric data for 302 stars down to $V \approx 19.5$ mag, and the results of photometric two-dimensional classification for about 80 % of them are given in Table A.4. The catalog is also accessible at the Strasbourg Data Center. The catalog contains the same information as Table A.2. The errors of magnitude V and color indices and also other notes are the same as in Table A.2. The coordinates are from the PPMXL catalogue (Roeser et al. 2010) rounded to two decimals of time second and to one decimal of arcsecond.

1.3. Star cluster King 7 area

The center of the third investigated area (Fig. 1.5), is at $\alpha(2000) = 03^{\text{h}}59.0^{\text{m}}$, $\delta(2000) = +51^{\circ}48'$; $\ell = 149.77^{\circ}$, $b = -1.02^{\circ}$. The area includes the P2 and P8 clumps of the dark cloud TGU H989 (Dobashi et al. 2005). The dust map from Schlegel et al. (1998) shows a complicated pattern of dust distribution in the area. The area is a part of the $3^{\circ} \times 4^{\circ}$ size region investigated photoelectrically in the Vilnius seven-color system by Zdanavičius et al. (2001). Photoelectric photometry for more stars in the area was published in Zdanavičius & Zdanavičius (2002a,b). These stars served as standards in the present CCD work.

1.3.1. Observations with the Maksutov telescope

Seven-color CCD photometry in the area shown in Fig. 1.5 was obtained in 2009 September.

In total, 61 frames of different exposure lengths were obtained (Table 1.6.).

The transformation of instrumental magnitudes and color indices to the standard *Vilnius* system, was based on 36 stars in the field observed photoelectrically by Zdanavičius et al. (2001) and Zdanavičius & Zdanavičius (2002a,b).

The (x,y) -coordinates of stars were transformed to right ascensions and declinations using the USNO-B1.0 catalog (Monet et al. 2003).

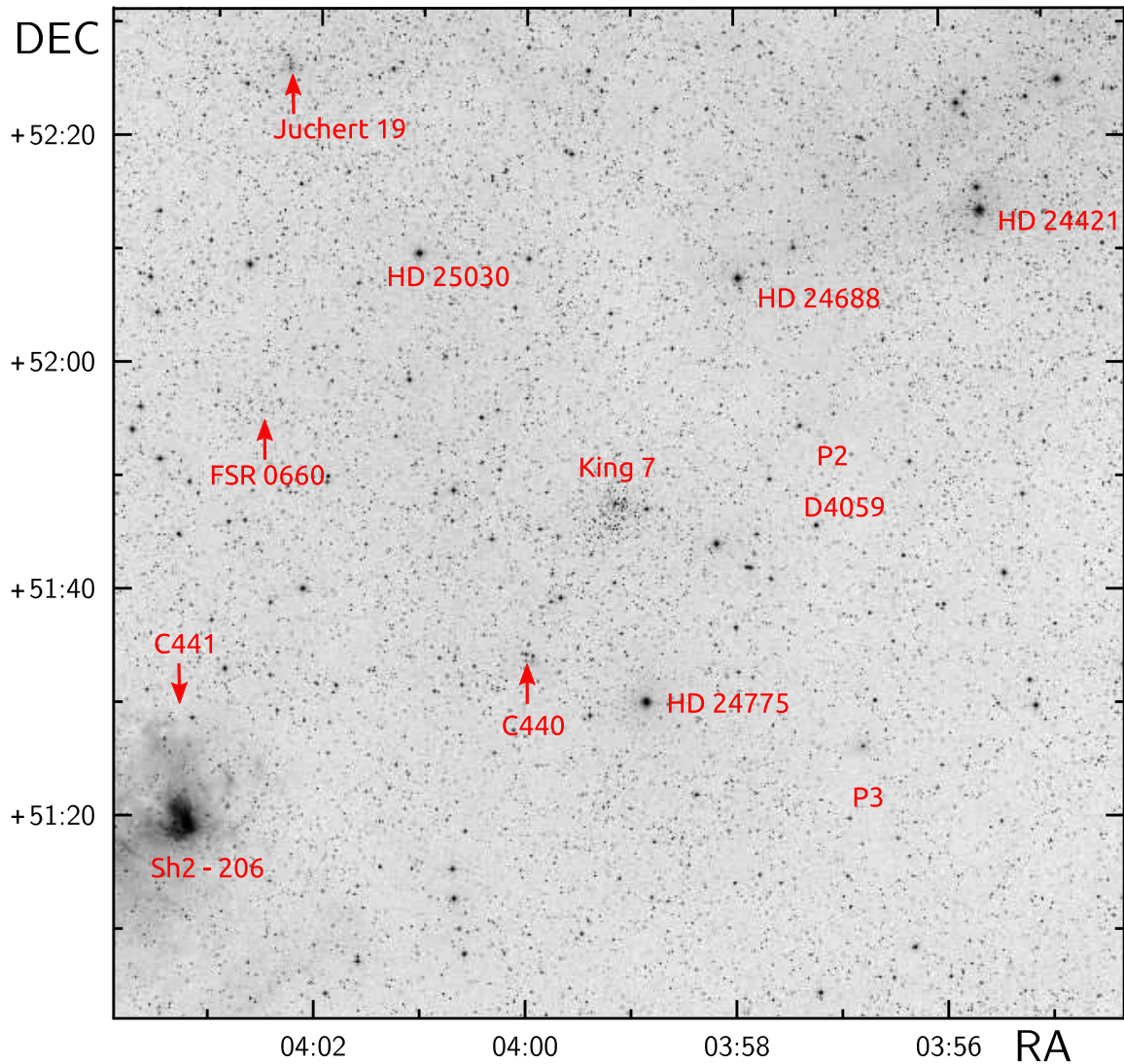


Figure 1.5.: Map of the observed King 7 area with Maksutov telescope (DSS1 Red from the SkyView Virtual observatory) P2 and P3 are the clumps of the dark cloud TGU H989; C440, C441, FSR 0660, Juchert 19 are infrared star clusters.

Table 1.6.: Log of Maksutov observations of the King 7 area. The first two columns give the filter name and its mean wavelength. The numbers of multiple frames with the same exposure length are given in brackets.

Filter	λ_0 nm	min/sec	Exposure length and the number of frames
<i>U</i>	345	min	30 (2), 8 (2), 2 (2)
<i>P</i>	374	min	25 (2), 5 (2), 1 (2)
<i>X</i>	405	sec	960 (2), 300 (2), 90, 70, 20 (2), 15
<i>Y</i>	466	sec	300 (2), 120 (2), 30 (2), 10 (2), 5, 3 (2)
<i>Z</i>	516	sec	240 (3), 60 (2), 15 (2), 15 (2), 5 (2), 4, 1
<i>V</i>	544	sec	720 (2), 200, 180, 50, 40, 15, 10, 5
<i>S</i>	656	sec	240 (2), 60 (2), 15 (2), 4, 3, 2

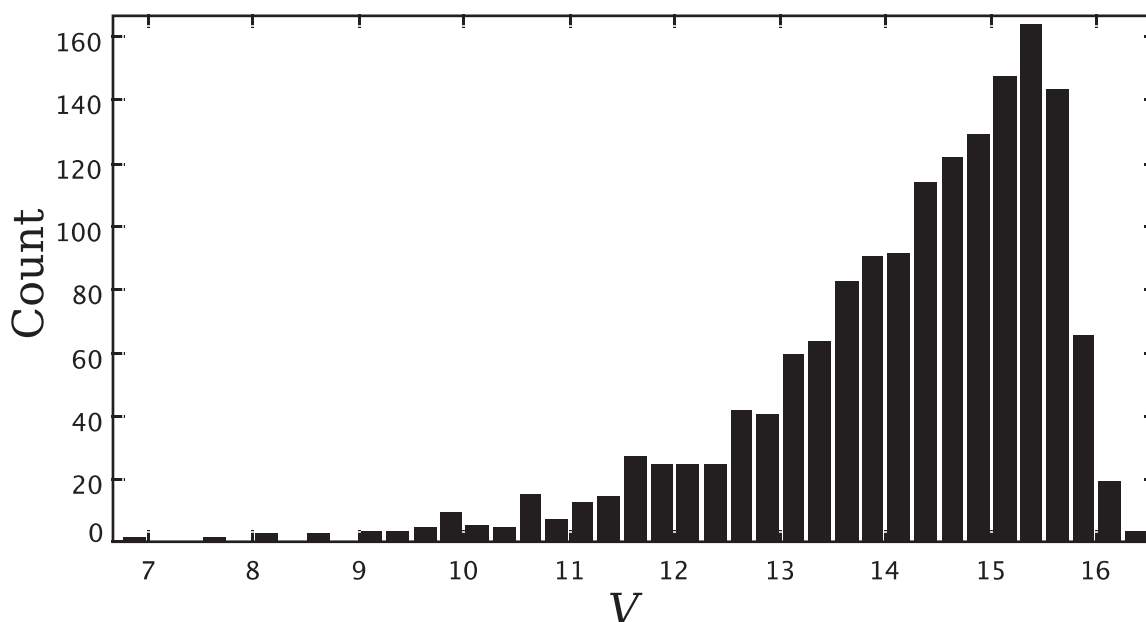


Figure 1.6.: Distribution of the Maksutov King 7 area catalog stars in apparent magnitudes.

1.3.2. The catalog

Magnitudes and colors were determined for 1549 stars down to $V = 17$ mag. The distribution of the catalog stars in apparent magnitudes is shown in Fig. 1.6. The internal accuracy of the catalog is illustrated in Table 1.7, where the mean errors in V and color indices in five magnitude intervals are given. The table shows that the accuracy better than 0.02 mag (or 0.05 and 0.03 mag in the case of $U-V$ and $P-V$, respectively) is valid for the stars brighter than $V = 15.5$. At $V \approx 16$, the accuracy of photometry is too low for a reliable classification of stars. At magnitude 17 for most stars the errors are ± 0.02 for V and $\pm 0.02-0.08$ mag in other filters. The U and P magnitudes for the faintest stars are absent.

The results of photometry of 1549 stars down to $V \approx 16.0$ mag are provided at the Strasbourg Data Center. The columns list the same information as in Tables A.1. and A.3.

Table 1.7.: Internal accuracy of the photometric catalog.

V interval	n	σ_V	σ_{U-V}	σ_{P-V}	σ_{X-V}	σ_{Y-V}	σ_{Z-V}	σ_{V-S}
6.00–11.00	56	0.004	0.007	0.006	0.004	0.004	0.003	0.003
11.00–13.00	204	0.006	0.010	0.010	0.006	0.006	0.005	0.009
13.00–15.00	746	0.009	0.022	0.019	0.011	0.010	0.011	0.015
15.00–15.50	307	0.009	0.048	0.025	0.016	0.015	0.019	0.020
15.50–17.00	227	0.010	0.071	0.029	0.024	0.018	0.026	0.029

For most stars in the catalog spectral and luminosity classes are given. The classification methods are described in Zdanavičius et al. (2010).

Chapter 2

Two-dimensional classification of stars

Classification of stars in the Vilnius system is done by various reddening-free Q parameters and QQ diagrams calibrated in terms of spectral classes and absolute magnitudes and described in Straizys (1992). Q -parameters are defined by the equation

$$Q_{1234} = (m_1 - m_2) - (E_{12}/E_{34})(m_3 - m_4), \quad (2.1)$$

where $m_1 - m_2$ and $m_3 - m_4$ are color indices, and E_{12}/E_{34} are ratios of the corresponding color excesses. The extinction difference in two spectral regions defines a color excess, e.g. E_{B-V} in the BV system. The ratio of the total extinction in the V passband to the color excess E_{B-V} is $R = A_V/E_{B-V} = 3.15$ in the general Galactic dust layer.

2.1. Classification of stars in the TGU H994 P1, Sh2-205, and King 7 areas

For the two-dimensional spectral classification of stars (spectral and luminosity classes) two classification codes COMPAR and QC0KLAS later modernized and renamed to KLASQ were used.

1. The COMPAR code applies comparison of Q -parameters of stars in the area and individual standard stars. The code was composed by A. Kazlauskas and described by Straizys et al. (2013). When all six color indices are available, the method uses matching of 14 different interstellar reddening-free Q -parameters of a program star to those of about 8300 standard stars of various spectral and luminosity classes, metallicities, and peculiarity types from the General Photometric Catalog of Stars Observed in the Vilnius System (Straizys & Kazlauskas 1993) supplemented with new photoelectric observations. The E_{12}/E_{34} ratio slightly depends on spectral type, and this dependence is taken into account by approximations: the mean ratios of color excesses are used for preliminary classification, then the corrected ratios give new classification, etc. The ratios of color excesses corresponding to the normal interstellar reddening law are taken. The matching of Q -parameters leads to a selection of some standard stars with a set of Q s most similar to those of the program star. The match quality is characterized by σQ which depends on the differences of corresponding Q parameters of the program star and the standard star (ΔQ_i) and on a number of the compared Q parameters (n) (in our case, $n = 14$). For the stars observed with an accuracy of ± 0.01 mag, the σQ value is about ± 0.01 – 0.02 mag. In this case the match is considered to be good, and the MK

spectral type (spectral class + luminosity class) of the standard star may be assigned to the program star. Usually, we accepted for the program star the average spectral and luminosity classes of the five best-matching stars weighted by σQ^{-1} . If the matching accuracy is larger than 0.03 mag, the star remains not classified: such stars can be unresolved binaries or have peculiar spectral energy distributions. Two-dimensional classification of K and M stars can be obtained even without $U-V$ and $P-V$ color indices, containing the ultraviolet magnitudes U and P , and using only seven Q parameters. Sometimes it is difficult to separate K and M stars, especially K5–K7 and M0–M2 dwarfs. In this case the 2MASS JHKs or WISE photometry helps.

2. The QC0KLAS or KLASQ code, instead of standard stars with known MK spectral types, applies the intrinsic color indices for 300 types of two-dimensional MK types taken from the Straižys (1992) monograph. The code was composed by K. Zdanavičius and is described in Milašius et al. (2013). The classification code includes the following three stages:

(1) 14 interstellar reddening-free Q parameters are calculated from the intrinsic color indices for 300 MK types. In calculation of the Q parameters, the ratios of color excesses corresponding to the normal interstellar reddening law are taken. The same Q parameters are calculated for the program stars. Next, for each program star these 14 Q parameters are matched up with the set of 300 standards to find the MK type which shows the least standard deviation;

(2) The next classification stage is based on six intrinsic color indices which include the passbands X , Y , Z and V ($X-Y$, $X-Z$, $X-V$, $Y-Z$, $Y-V$ and $Z-V$). Differences of the observed color indices of a program star and the corresponding intrinsic color indices of the 300 MK standards are calculated giving the spurious "color excesses" which for convenience are all transformed to the values of interstellar dust mass x (in the scale when $A_V = x = 1$). The values of $x < -0.15$ are rejected. The analysis of x values for each program star (corresponding to different color indices) allows finding the standard for which the dispersion of the six x values is at minimum. This value of x should be close to the real interstellar dust mass which affects this star, and the corresponding spectral type can be accepted for the program star;

(3) The accepted spectral type of a program star and its dust mass allows to deredden all color indices. We can compare the dereddened indices with the intrinsic color indices of a set of standard 300 MK types, find a minimum dispersion of six color indices and estimate again the spectral type of this program star.

Finally, the mean values of these three MK types are calculated. Their dispersion allows to estimate the classification reliability. Interstellar reddening and extinction for each of the classified stars is determined together with its spectral type.

In recent years K. Zdanavičius has updated the classification code. The number of stars used as standards for two-dimensional spectral classification have been increased and next to the σQ and σC parameters used, new parameter σA , describing interstellar extinction dispersion resulting from three color indices $X-Y$, $Y-V$, and $V-S$, has been added.

To verify the results of photometric classification of TGU H994 P1 region, Ulisse Munari obtained the spectra of 18 stars of the area down to $V = 12$ mag with the 1.22 m telescope at the Asiago

Table 2.1.: Stars classified from the Asiago spectra by the Gray & Corbally (2014) code MKCLASS and by visual inspection (U.M.). For the comparison, photometric spectral types obtained with two different codes (KLASQ and COMPAR) are listed.

Star	Asiago spectra		Sp	Sp
	MKCLASS	Visual	KLASQ	COMPAR
8	G7 IV	G7 III-IV	g8.5 V	g8 V
13	A0 V	–	a1.5 V	a1 V
39	F7 V	–	f8 V	f8 V
65	G9 III	–	g9.5 IV	g8 III-IV
76*	B3/4 IV-V	B4/5 IV	b5 V	b5 Vp
162	G0 IV-V	–	f8 IV	f8 IV-V
279	G8 III-IV	G8/9 IV	g9.5	k0 III-IV:
328	K0.5 V	–	g9.5 V	k0 V
341	A1 IV-V	–	a0 IV	a1 V
396	G9 V	–	g8.5 V	g9 V
420	B8 V	B7 V	b8 V	b7 Vp
565	B9 V	B9	a0 IV	a2 V:
570	F7 IV	–	f6/7 V	f7 V
580	M2.5 III	M2/3 III	k-m	k-m
601	K4 V	–	k4.2 V	k4 V
668	F8 V	F8 V	f8 V	f6 V
683	G4 III-IV	G5/6 IV	k0 IV	g8 III:
HD				
28097	F7 V	F8 (HD)	–	–

Note. No. 76 (HDE 232940) is a new Be-type star (Chojnowski et al. 2015).

Observatory, Italy, equipped with a B&C spectrograph and a 600 lines/mm grating providing a dispersion of $1.17\text{\AA}/\text{pix}$ and a resolving power = 2.1 pix. The recorded spectra cover $3487 - 5885\text{\AA}$. Spectral classification of these stars, listed in Table 3, was accomplished with the computer program MKCLASS designed to classify stellar spectra on the MK system provided by Gray & Corbally (2014). Table 2.1 shows that in most cases differences between the spectroscopic and photometric spectral types do not exceed one to two spectral subclasses and one luminosity class. This gives us additional confidence in two-dimensional spectral types determined from Vilnius photometry. As an independent check of the classification of the Asiago spectra by means of the Gray & Corbally (2014) code, U. Munari independently classified eight of them through a careful visual comparison of their calibrated spectra against the Yamashita et al. (1977) atlas of the representative stellar spectra in the MK system. For these stars (Nos. 8, 76, 279, 420, 565, 580, 668, and 683), differences between the spectral classification from photometry and from the Gray & Corbally (2014) code were the largest. The results, listed in Table 2.1, are in strong support of the MKCLASS code.

Chapter 3

Distance determination to dust clouds

For the classified stars we determined color excess E_{Y-V} , interstellar extinction A_V and distance d by the following equations:

$$E_{Y-V} = (Y - V)_{\text{obs}} - (Y - V)_0, \quad (3.1)$$

$$A_V = 4.16 E_{Y-V}, \quad (3.2)$$

$$5 \log d = V - M_V + 5 - A_V, \quad (3.3)$$

where V and $Y-V$ are the observed magnitudes and color indices. The intrinsic color indices $(Y-V)_0$ and absolute magnitudes M_V for a given spectral type are from Straižys (1992). The errors of color excess, extinction, and distances are described in Straižys et al. (2015). Typical errors of the extinction and distance are $\sigma(A_V)/A_V = \pm 0.06$, and $\sigma(d)/d = \pm 0.10$.

3.1. Distance to the dust cloud TGU H994 P1

For 584 stars from Table A.1 and for 447 stars from Table A.2 with reliable spectral and luminosity classes, color excess E_{Y-V} , interstellar extinction A_V , and distance d (in pc) were calculated with the (3.1), (3.2) and (3.3) equations.

In Eq. (3.2) the coefficient corresponds to the normal interstellar extinction law. The normality of the law was verified in the following way: (1) 123 B and A stars in the area were selected; (2) for these stars, $E_{B-V} = 1.32 E_{Y-V}$ values were calculated; (3) the E_{V-J} , E_{V-H} , and E_{V-K_s} values were calculated taking the intrinsic colors from Straižys (1992); (4) the R_V values were calculated from the ratios $E_{V-\lambda}/E_{B-V}$ with the equations from Fitzpatrick (1999); Fitzpatrick & Massa (2009) and Larson (2014). The resulting R_V values are between 2.92 and 3.12, i.e. close to the normal value 3.1.

The plot A_V vs. d for stars in the whole 1.5 deg^2 area up to 500 pc is shown in Fig. 3.1. The stars measured from the Maksutov telescope exposures are shown as black dots, and those measured from the VATT exposures are shown as yellow circles. The stars with spectroscopic MK types (Table 2.1) are plotted as blue crosses. The red vertical line designates the accepted cloud distance. The A_V vs. d plot for 584 stars in the same area up to 5.5 kpc is shown in Fig. 3.2. The two broken red curves show the limiting magnitude effect for stars of spectral types A0 V at $V = 15$ and 16 mag. Most stars are located below the last curve. Above it, at large distances, we find only a few stars of

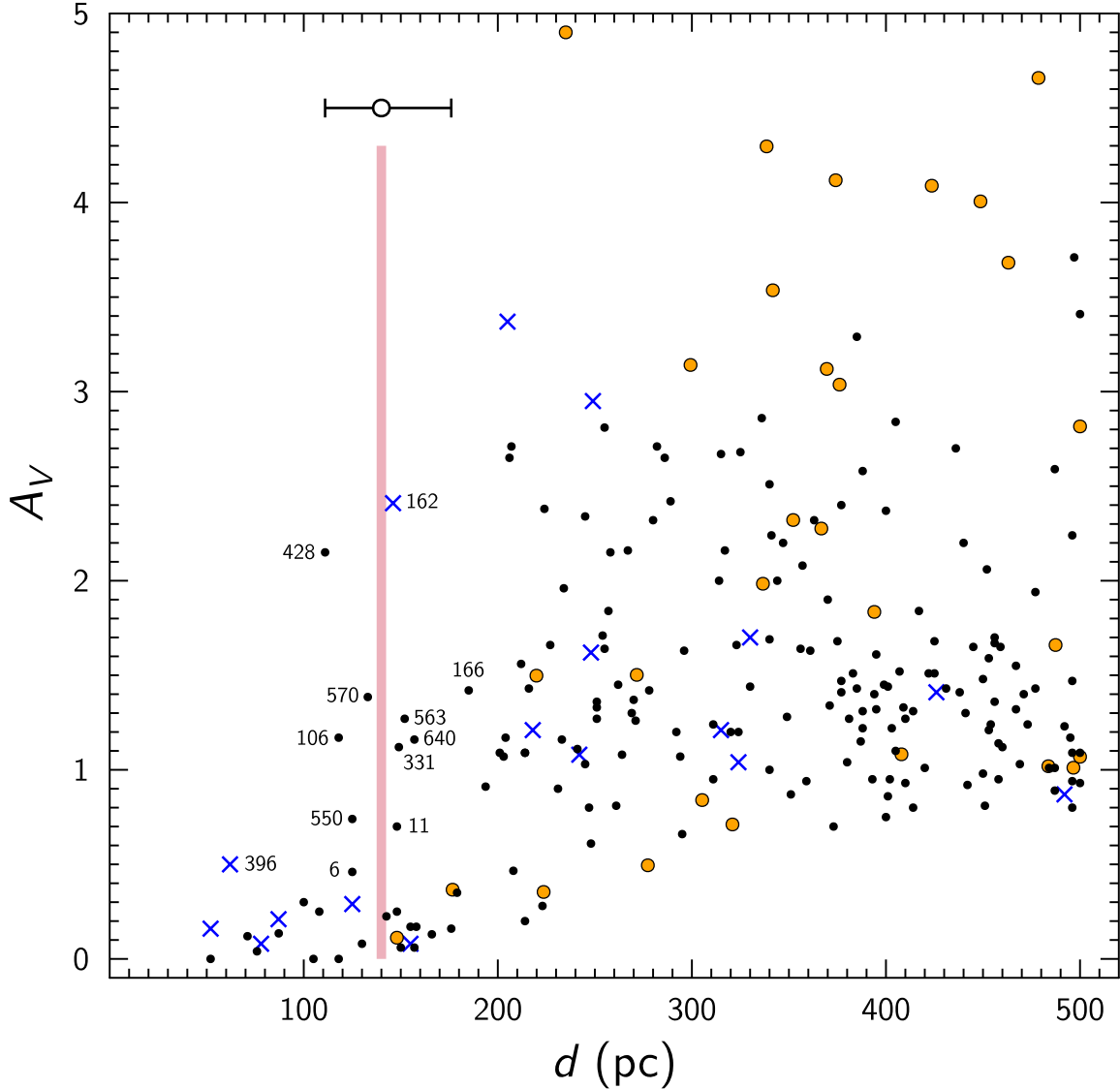


Figure 3.1.: Extinction versus distance for the investigated TGU H994 P1 area up to $d = 500$ pc. The stars, measured in the Maksutov telescope exposures, are plotted as black dots, and the stars, measured in the VATT exposures, are plotted as yellow circles. Blue crosses are the stars for which MK spectral classes were determined from their Asiago spectra (Table 2.1). The nearest reddened stars are labelled with their numbers in the Table A.1 catalogue. The red vertical line designates the accepted position of the dust cloud TGU H994 P1 at 140 pc (see the text). The 3σ error bar for this distance is shown.

spectral class B and M giants, which have absolute magnitudes brighter than A0 V. Fig. 3.3 shows the A_V vs. d plot for 416 stars up to 5.5 kpc in the three areas observed with the VATT telescope down to fainter apparent magnitudes.

The determination of distances to dust clouds located close to the Sun is difficult because the number of stars in the foreground and immediately behind the cloud is usually low, and most of them are K and M dwarfs. The beginning of the cloud should be signified by a sudden rise of the extinction at a certain distance. However, the apparent distance of the nearest reddened stars cannot be accepted

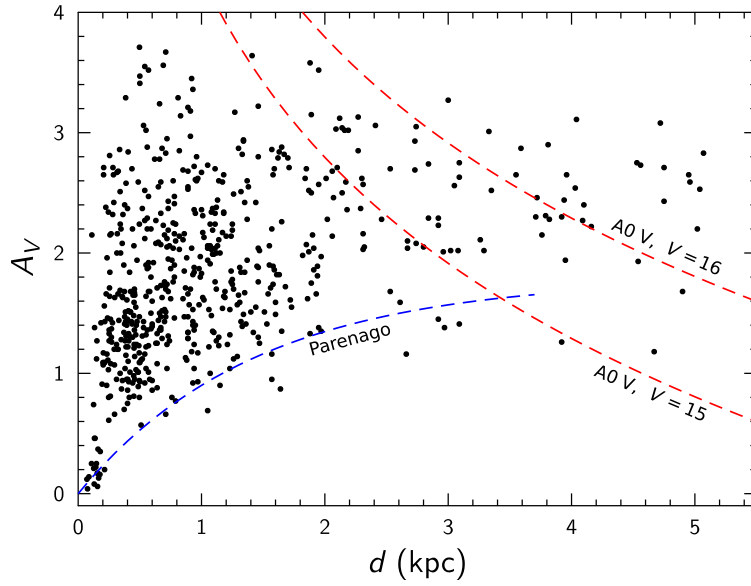


Figure 3.2.: Extinction versus distance for the investigated TGU H994 P1 area up to 5.5 kpc for 584 stars with two-dimensional classification, measured in the Maksutov telescope exposures. The two red broken curves show the limiting magnitude effect for A0 V at $V = 15$ and 16 mag. The exponential extinction formula of Parenago (1945) for the Galactic latitude $b = 4^\circ$, $A_V = 1.25$ mag/kpc and the scale height 100 pc is shown (blue broken curve).

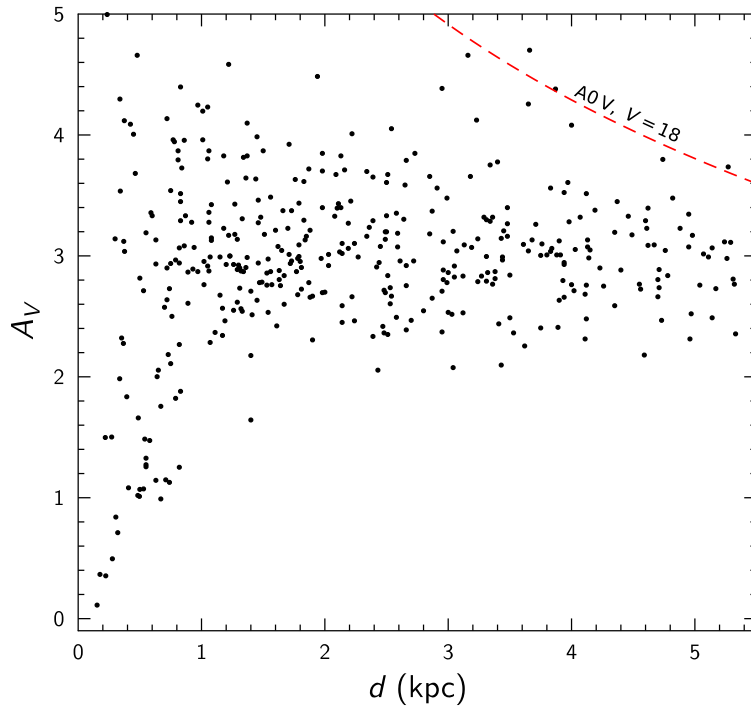


Figure 3.3.: Extinction versus distance in the three TGU H994 P1 $12' \times 12'$ areas for 416 stars with two-dimensional classification, measured in the VATT telescope exposures. The red broken curve designates the limiting magnitude effect for A0 V stars at $V = 18$ mag.

as the cloud distance, since their distances are affected by the errors of the observed magnitudes and colors, photometric classification errors, cosmic dispersion of the intrinsic colors, variations in the shape of the interstellar extinction law; some stars can be unresolved binaries.

In our case (Fig. 3.1), the distribution of stars with distance shows a significant increase of the extinction starting from ~ 110 pc. At about 200 pc the extinction values close to ~ 5 mag are being reached. Trying to understand where the cloud is located, we must analyse the possible distance errors for each reddened star. The largest source of distance errors are luminosity classes determined by photometric classification. In different ranges of spectral classes, these errors are somewhat different, but their typical value is close to $3\sigma = \pm 0.5$ mag. For K- and M-type dwarfs the photometric luminosity class is usually correct, but in the HR diagram they exhibit considerable intrinsic dispersion of their M_V values at a fixed intrinsic color or spectral class; see Perryman et al. (1995, 1997). An absolute magnitude error of ± 0.5 mag leads to the minimum and maximum apparent distances $0.79d$ and $1.26d$. As a result of these distance errors, stars move from the distance of the cloud to both sides, but they are easy to identify in the direction of negative distance errors (i.e. reddened stars moved to foreground) since in the direction of positive distance errors they become mixed with reddened background stars (except at A_V close to zero, see below).

At this point, we evaluate the distance to the cloud from the apparent positions of the reddened foreground stars. Since there is no information about their binarity, the stars are considered to be moved from the cloud distance mainly by the errors of their absolute magnitudes. Unfortunately, the close reddened stars in our sample are very scarce.

The reddened star with $A_V > 1$ mag that is nearest to us is No. 428 ($V = 13.47$, k1 V, $A_V = 2.14$ mag, $d = 111$ pc). This star is located only about $2'$ north of the cloud LDN 1400 edge. If this star has been moved to this apparent distance by the 3σ error, its real distance should be $111 \times 1.26 = 140$ pc (all distances are rounded to 1 pc). If star No. 428 is a binary or has been shifted shortwards by a larger distance error, the calculated cloud distance should be larger. If the star has been moved by a smaller distance error, its real distance, i.e. beginning of the cloud, should be smaller.

Another place in the A_V vs. d diagram is related to the unreddened or little reddened stars apparently located at larger distances than the cloud. If these stars have been moved to their apparent distances due to positive errors, then the real distance of the cloud should be smaller by a factor of 0.79. In Fig. 3.1, the stars with small extinction ($A_V < 0.2$ mag) extend to the apparent distance 180 pc, and this allows us to estimate the real cloud distance at $180 \times 0.79 = 142$ pc. This value is in agreement with the distance given by the foreground star No. 428.

If these considerations are real, the cloud distance is at 140 pc with 3σ errors -31 pc and $+36$ pc shown by the error bar in Fig. 3.1. Within this box, ten reddened stars with A_V between 0.5 and 2.3 mag are present. On the other hand, we are not sure that the entire investigated area is covered by a single cloud located at a fixed distance. The cloud complex can have considerable depth along the sightview, and in this case our results should correspond to different dust condensations.

The star No. 396 ($V = 10.15$, G9 V, $A_V = 0.50$, $d = 62$ pc), classified both from the Asiago spectra and from Vilnius photometry, also exhibits unusually large reddening for its distance. We suspect

this may be caused by an unseen red dwarf companion.

Figs. 3.2 and 3.3, which show the extinction vs. distance relations up to 5.5 kpc for the Maksutov and VATT telescopes, respectively, allow us to estimate the extinction run at large distances. The Maksutov results demonstrate a strong limiting magnitude effect at $V = 16$ mag. Therefore, the stars with large extinction values (up to ~ 3.7 mag) are only seen at distances closer than 2 kpc. In the VATT results, the limiting magnitude is close to $V = 19$ mag, and that is where we see the stars with A_V up to 5 mag and at larger distances. Most of the heavily reddened stars are located close to the dark cloud LDN 1400 (VATT areas B and C). In Fig. 3.3, the absence of stars with A_V lower than 2 mag can be explained by the fact that the VATT areas are located in directions with larger obscuration.

3.2. Distance to the dust clouds in the vicinity of the H II region Sh2-205

For 628 stars from Table A.3 and for 238 stars from Table A.4 with reliable spectral and luminosity classes, color excesses E_{X-V} , E_{Y-V} , and E_{V-S} were calculated as differences between the observed and intrinsic color indices taken from Straižys (1992). Then the excesses E_{X-V} and E_{V-S} were transformed to E_{Y-V} with the equations

$$E_{Y-V} = 0.58E_{X-V} \quad (3.4)$$

and

$$E_{Y-V} = 1.19E_{V-S}, \quad (3.5)$$

and the three values of E_{Y-V} were averaged. The interstellar extinctions A_V and distances d (in pc) were calculated with the equations (3.2) and (3.3). The coefficient in Eq.(3.2) corresponds to the normal interstellar extinction law. Normality of the law is based on the analysis of color excesses of B and A stars in the area TGU H994 P1. We have also found that the slope of the reddening line in the $J-H$ vs. $H-K_s$ diagram in both areas coincides. This means that the extinction law in the near-infrared is similar in both directions.

The plot A_V vs. d for 57 stars in the whole 1.5 deg^2 area with distances up to 250 pc is shown in Fig. 3.4. All these stars are measured from the Maksutov telescope exposures. A few stars in the same distance range measured from the VATT exposures are common in both catalogues. Two more possible K1–K1.5 dwarfs, Nos. 731 and 878, with $A_V = 3.6$ and 3.8 mag respectively, fall into the same distance range, but their classification and distances are of lower accuracy, thus we do not plot these stars in Fig. 3.4.

For the estimation of distance to the nearest dust cloud we applied the same method as in TGU H994 region: the obscured (reddened) stars with the smallest distances were considered to be located at a distance of the front side of the dust cloud, but scattered to lower apparent distances because of negative errors. The main source of the distance error is the absolute magnitude of the star which

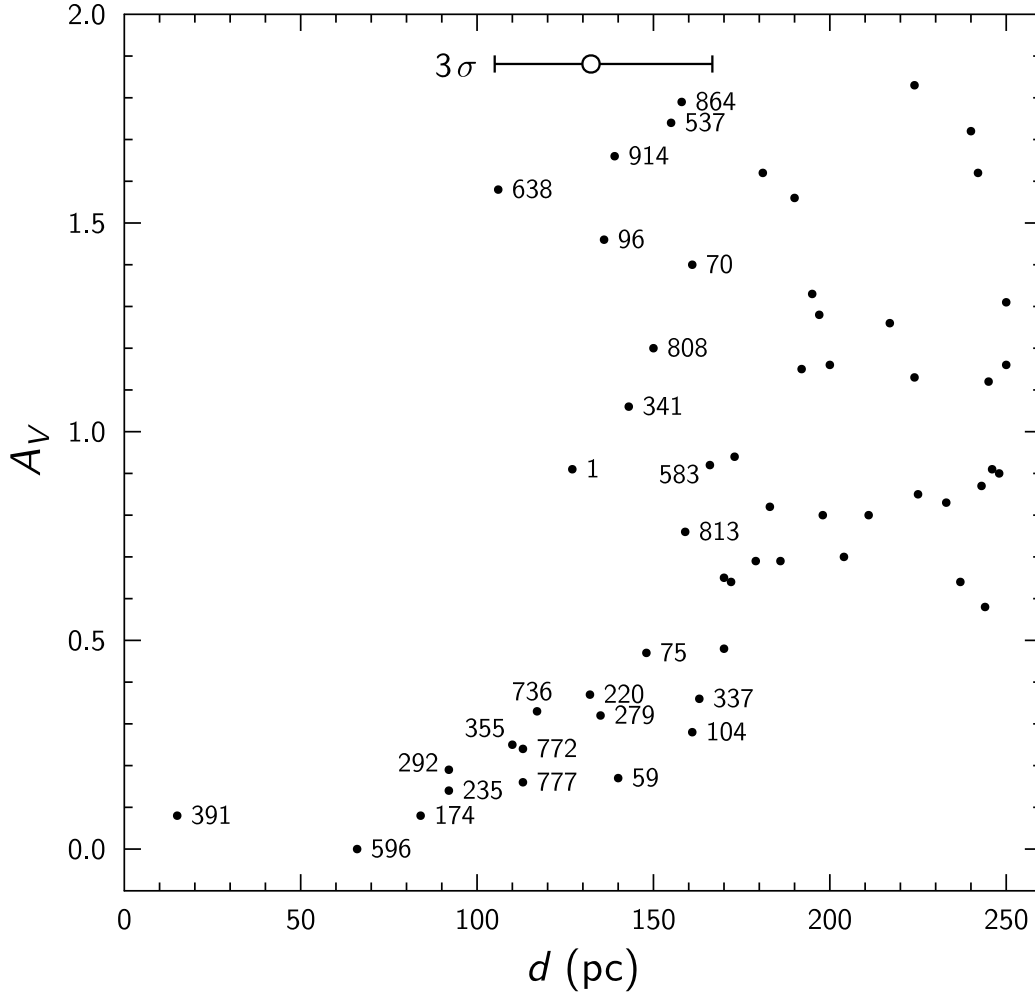


Figure 3.4.: Extinction versus distance for the investigated Sh2-205 area up to $d = 250$ pc. The stars up to 170 pc are marked with their numbers from Table A.3.

is estimated from its spectral and luminosity classes. We accept that the 3σ error of the absolute magnitude is 0.5 mag, and this corresponds to the scatter of distances by a factor of 1.26.

In Fig. 3.4 the nearest star with large extinction is No. 638 (g8.5 IV-V) at 105 pc. If this star has appeared at this apparent distance due to 3σ error of d , then its real distance should be 132 pc. This means that the distance to the nearest clouds in the area is close to 130 pc, i.e. by ~ 10 pc closer than the nearby cloud chain TGU H994 P1 also investigated in this work. However, we are not sure that all reddened stars within the error bar shown in Fig. 3.4 are at the same distance. The Camelopardalis clouds can have a considerable thickness along the sightline, which in the nearby Taurus complex is of the order of 25–30 pc (Loiuard et al. 2011; Welsh et al. 2010; Lallement et al. 2014).

Surface distribution of the nearby reddened stars shows no relation to the surface density of the dust thermal emission across the Galaxy shown by the dust map from Schlegel et al. (1998) based on the IRAS and COBE/DIRBE $100 \mu\text{m}$ observations. This means that the nearest dust layer at ~ 130

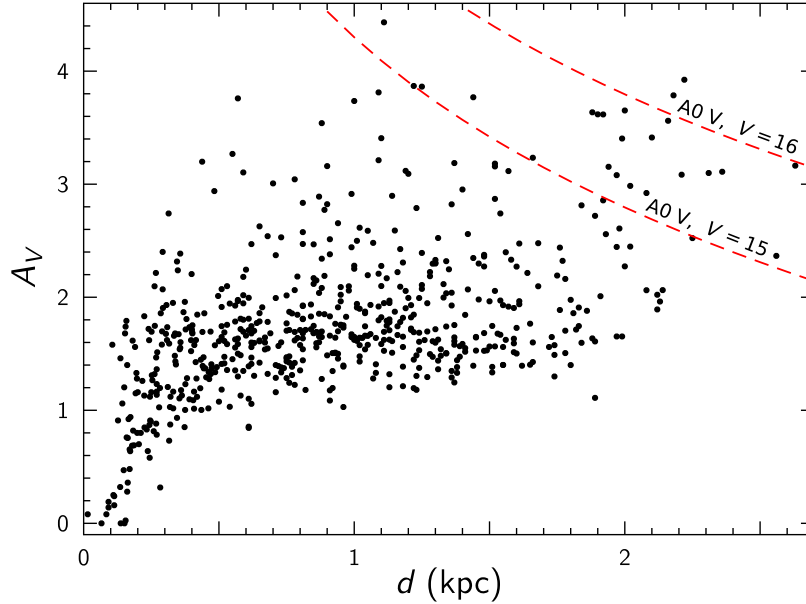


Figure 3.5.: Extinction versus distance for the investigated Sh2-205 area up to 2.6 kpc for 628 stars with two-dimensional classification, measured in the Maksutov telescope exposures. The two red broken curves show the limiting magnitude effect for A0 V at $V = 15$ and 16 mag.

pc covers more or less all the investigated area, and the dense clouds in the mentioned dust map are seen in the distant background.

The A_V vs. d plot up to ~ 2.5 kpc for the 1.5 deg^2 area is shown in Fig. 3.5 for 628 stars measured and classified from the Maksutov telescope exposures. The extinction run with distance, starting from the jump at 130 pc, continues to rise quite steeply up to 200–300 pc. At this distance it splits into two branches – the lower branch which remains at about the same extinction level (1.5–2.0 mag), and the upper branch which continues to rise up to ~ 3.5 mag at 500–600 pc. The maximum extinction is difficult to estimate since at large values of A_V the selection effect due to limiting magnitude starts to be effective, especially for A–F–G5 stars, see the limiting magnitude curves for A0 V stars. Behind the Perseus arm at 2.5 kpc the stars are mostly fainter than $V = 16$ mag, and they were rejected because of low accuracy of photometry and classification.

Fig. 3.6 shows a similar plot up to ~ 6 kpc for 238 stars measured and classified in the smaller VATT area of intermediate transparency. The red broken curve in the right upper corner show the limiting magnitude effect for the A0 V stars at $V = 18$ mag. The same curves are valid also for G5–K2 giants which have absolute magnitudes similar to A0 V stars. Because of the fainter limiting magnitude, some stars are measured and classified up to 5–6 kpc distances. Also, much higher extinctions up to 5 mag and more become accessible. At 500–600 pc the extinction jump up to $A_V = 3.5$ –4.0 mag seems to be present. Some rise of the extinction is also possible in the Perseus Arm at $d > 1.5$ kpc. Three stars with A_V close to 5 mag are observed within the Perseus arm but the stars with larger obscuration are absent because of the limiting magnitude effect.

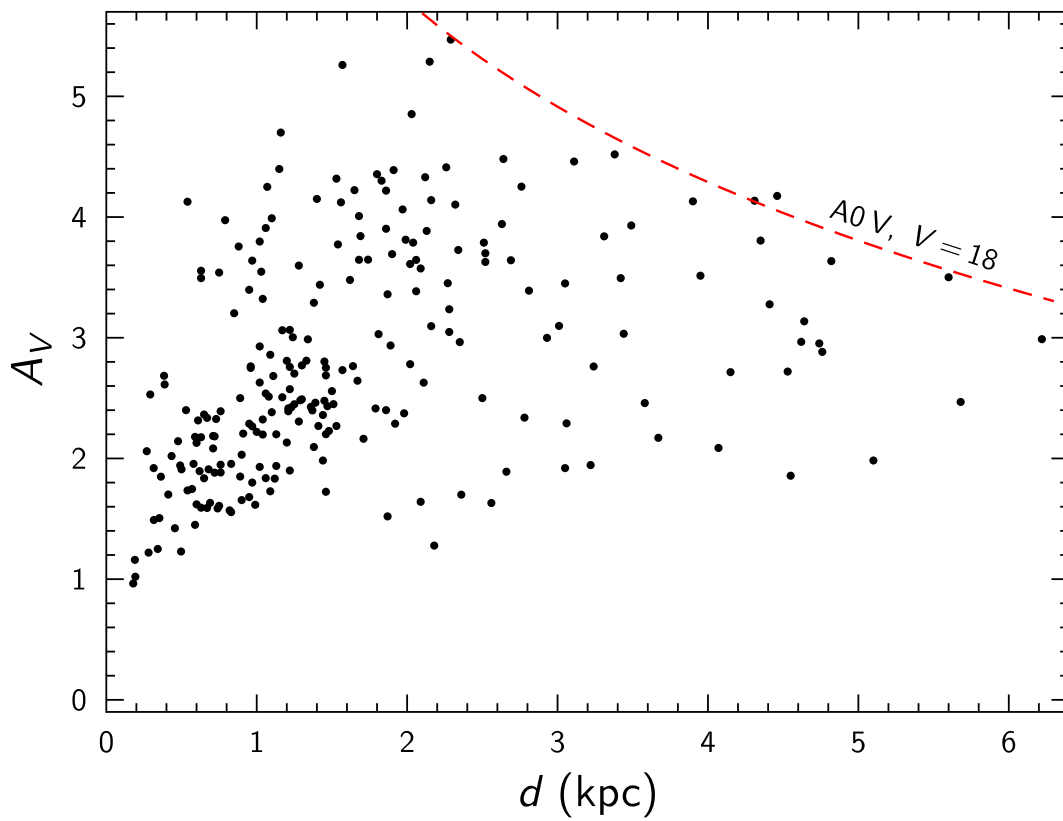


Figure 3.6.: Extinction versus distance for the investigated Sh2-205 area up to 6 kpc for 238 stars with two-dimensional classification, measured in the VATT telescope exposures. The red broken curve shows the limiting magnitude effect for A0 V at $V = 18$ mag.

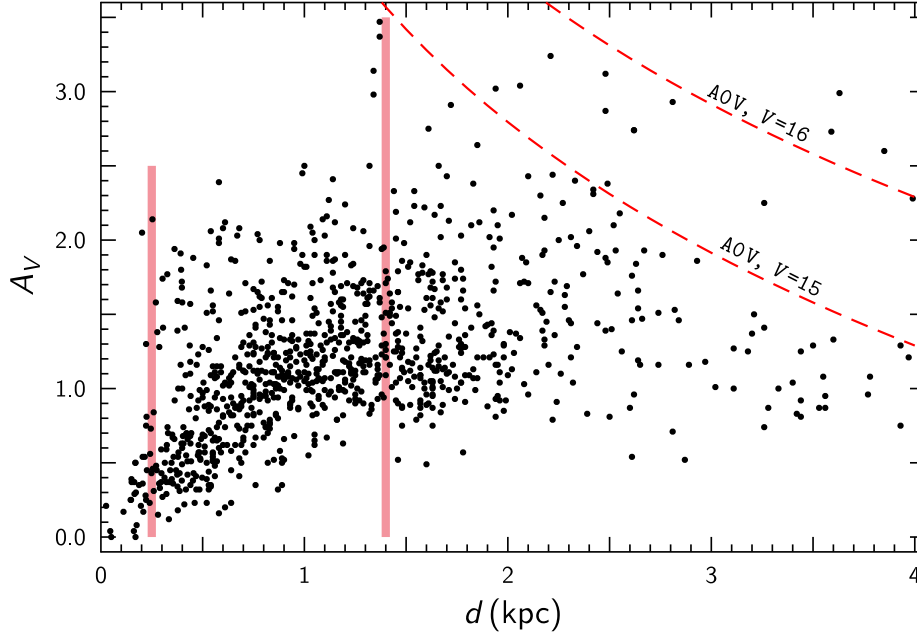


Figure 3.7.: Extinction versus distance for the investigated King 7 area up to $d = 4$ kpc for 982 stars with reliable two-dimensional classification. The two broken red curves show the limiting magnitude effect for A0 V stars at $V = 15$ and 16 mag. The two vertical solid red lines designate the positions of dust concentrations at 250 pc in the Local arm and at 1.4 kpc close to the Perseus arm.

3.3. Distance to the dust clouds in the vicinity of the star cluster King 7

For the analysis of the interstellar extinction in the area we selected only the stars with reliable two-dimensional classification. The stars, which gave either large deviations from the luminosity sequences of normal stars in the reddening-free Q, Q diagrams or large σQ values in the COMPAR classification method (> 0.03 mag), were rejected. These stars can be either peculiar (metal-deficient or emission-line stars) or unresolved binaries. Some of the rejected stars were too faint in the ultraviolet passbands (especially in U) to be measured with sufficient accuracy.

For 982 stars with reliable spectral and luminosity classes, color excesses E_{Y-V} were calculated as the differences between the observed and intrinsic color indices taken from Straižys (1992). The interstellar extinctions A_V and distances d (in pc) were calculated with the equations (3.2) and (3.3). The coefficient in Eq. (3.2) corresponds to the normal interstellar extinction law. Normality of the law is based on the analysis of color excesses of B and A stars in the general direction of the Camelopardalis clouds (Zdanavičius et al. 2002b) and in the TGU H994 P1 area (Straižys et al. 2016a).

The plot A_V vs. d for 982 stars in the whole 1.5 deg^2 area with distances up to 4 kpc is shown in Fig. 3.7. Most of the stars show approximately exponential rise of the extinction up to about ~ 1.5 mag at 1.5 kpc. At larger distances the number of stars considerably decreases due to limiting magnitude effect. This effect can be estimated by the two broken curves shown in Fig. 3.7, corresponding to

A0 V stars with $V = 15$ and 16 mag. Above these curves only a few stars of early-types are seen. The same curves are also valid for K-type giants which have similar absolute magnitudes as A0 V stars. For A-F-G-K stars of the main-sequence belt, as well as for G5-K subgiants these curves are located lower and closer to the Sun.

A steep rise of the extinction is seen at about 250 pc which can be related with a concentration of dust clouds in the Local arm. This means that in the direction of King 7 the nearest to the Sun dust clouds are farther than in the surrounding areas, which we investigated in Straizys et al. (2016a), (the dark cloud TGU H994 P1 area) and in Straizys et al. (2016b) (the H II region Sh2-205 area). In that two areas we have found that the Camelopardalis dust clouds begin at 130–140 pc.

The next jump of heavily reddened stars in Fig. 3.7 is evident at 1.3–1.4 kpc, where our sightline enters the Perseus spiral arm in the direction of the Galactic longitude $\ell \sim 150^\circ$. However, due to the limiting magnitude effect, stars with the extinctions higher than $A_V = 3.5$ mag were not observed.

Chapter 4

Identification of Young Stellar Objects (YSOs)

YSOs in the investigated areas were identified using the Koenig & Leisawitz (2014) classification scheme which applies combining of the WISE ($W1$, $W2$, $W3$ and $W4$) and 2MASS (J , H , and K_s) near- and mid-infrared colors. The AllWISE catalog (Cutri et al. 2014) was used. First, the cuts in signal-to-noise versus space was applied to suppress the fake component. The signal-to-noise ($Wsnr$) and reduced chi-squared ($Wrchi2$) parameters given in the AllWISE photometric catalog for each Wise filter give a strong discriminating power between real and fake point sources. Then the objects that meet the requirements for star forming galaxies and Active Galactic Nuclei (AGNs) were removed. Then we searched for YSO candidates using criteria of Koenig & Leisawitz (2014).

4.1. YSOs in the TGU H 994 P1 area

The clouds in the investigated area do not show active star formation. Radio observations in molecular lines reveal a number of cool gas cores of the subparsec sizes, which might be prestellar clumps. However, stellar YSOs in the area are quite scarce. In the investigated area only 2 YSOs were found and all belong to Class II (Table 4.1).

In Fig. 4.1, only a few stars are located in the region of possible T Tauri stars. Among them, the most reliable candidate is 2MASS J04251408+5456524 at $J-H = 1.53$ and $H-K_s = 0.97$. Two more possible YSOs, 2MASS J04241953+5453594 and J04262976+5450399, are revealed by the K_s-W1 vs. $W1-W2$ diagram. These three stars all are seen in the direction of LDN 1400. A few stars located in Fig. 4.1 above the intrinsic T Tauri line (Meyer et al. 1997) with $J-H = 0.8-1.1$ and $H-K_s = 0.4-0.6$ are candidates to be YSOs of class III (Weak-line T Tauri star (WTTS)). These stars cannot be normal M dwarfs reddened by interstellar dust since in this case their distances are unrealistically small (50–80 pc). Part of them can be binaries whose reddening is caused by a cooler secondary component.

Table 4.1.: YSOs identified in the TGU H994 P1 area

No.	ALLWISE No.	$W1-W2$ mag	$W2-W3$ mag	J mag	$H-K_s$ mag	K_s-W1 mag	Type
1	J042514.08+545652.3	0.656	0.707	12.568	0.976	0.577	YSO2
2	J042629.77+545039.9	0.565	1.891	13.736	0.395	0.415	YSO2

4.2. YSOs in the Sh2-205 area

In the investigated area we found 88 YSOs listed in Table 4.2, among them 25 stars belong to Class I and 63 to class II. Their surface distribution, shown in Fig. 4.2, exhibits strong clustering into the dust clouds seen in the dust map by Schlegel et al. (1998). Only a few objects are scattered around the dark clouds. The largest number of YSOs is concentrated in the dust clump P7 and the infrared cluster FSR 655 with the coordinates $\alpha(2000) = 03^{\text{h}}56^{\text{m}}14^{\text{s}}$, $\delta(2000) = +53^{\circ}51'54''$ (Froebrich et al. 2007). Three of these YSOs were identified earlier by Straizys & Laugalys (2007b), about 16 by Romero & Cappa (2009) using the 2MASS, MSX and IRAS surveys.

A compact group of five YSOs is located at $\alpha(2000) = 03^{\text{h}}54^{\text{m}}56^{\text{s}}$, $\delta(2000) = +53^{\circ}45'$. Probably, these stars are members of a small heavily reddened cluster with an angular diameter of 2.0–2.5 arcmin. Hereafter we will call this possible cluster as SCB 1. Within it about 30 stars down to $K_s \approx 15$ mag can be counted (Fig. 4.3). The extinction of stars in this cluster should originate in the local dust layer at 130–300 pc and the dust cloud TGU H942 P7. The cluster is located almost at the center of the Dobashi 4040 cloud (Dobashi 2011). From a statistical analysis of $J-H$ and $H-K_s$ colors in this cloud, Dobashi (2011) finds its average extinction $A_V = 6.85$ mag. For the extinction across the Galaxy, the dust map calibrated by Schlafly & Finkbeiner (2011)¹ in this direction gives a value of $A_V = 7.28$ mag.

Table 4.2.: YSOs identified in the Sh2-205 area

No.	ALLWISE No.	W1–W2 mag	W2–W3 mag	J mag	$H-K_s$ mag	K_s-W1 mag	Type
1	J035252.53+532344.7	0.945	2.560	15.120	0.827	1.172	YSO2
2	J035252.54+532349.7	0.487	2.239	14.585	0.525	0.584	YSO2
3	J035303.05+531554.4	0.496	2.338	15.155	0.563	0.612	YSO2
4	J035309.07+531612.9	0.621	1.673	15.202	1.092	0.860	YSO2
5	J035314.27+531933.2	1.226	2.823	16.387	1.141	1.678	YSO1
6	J035319.89+530500.6	0.520	1.713	14.138	0.463	0.489	YSO2
7	J035322.08+530523.6	0.432	2.318	13.424	0.494	0.730	YSO2
8	J035334.08+533530.2	0.599	–0.531	16.030	1.138	1.102	YSO2
9	J035334.12+533622.2	1.097	2.331	12.558	0.998	1.374	YSO2
10	J035334.76+534013.4	0.640	2.801	14.668	0.635	0.712	YSO2
11	J035342.25+533459.0	0.417	3.331	11.568	0.426	0.604	YSO2
12	J035342.83+533650.4	0.671	2.427	17.939	1.410	1.904	YSO1
13	J035346.13+532759.8	0.542	2.250	14.819	0.610	0.767	YSO2
14	J035347.56+535941.3	0.560	1.863	15.329	0.724	0.906	YSO2
15	J035349.32+530948.3	0.318	1.971	14.320	0.640	0.512	YSO2
16	J035351.77+533214.1	0.432	2.552	15.142	0.703	1.318	YSO2

¹The NASA/IPAC Extragalactic Database, NED.

Table 4.2.: Continued

No.	ALLWISE No.	W1-W2 mag	W2-W3 mag	<i>J</i> mag	<i>H-K_s</i> mag	<i>K_s-W1</i> mag	Type
17	J035354.58+530731.4	0.455	1.575	12.713	0.599	0.628	YSO2
18	J035356.93+531419.7	0.565	2.587	14.695	0.870	0.832	YSO2
19	J035357.05+531320.7	0.667	2.370	16.348	0.835	1.207	YSO2
20	J035357.61+530511.9	0.484	2.080	14.604	0.304	0.687	YSO2
21	J035359.56+531529.4	0.484	1.998	14.494	0.800	1.004	YSO2
22	J035402.24+533419.5	0.452	2.154	15.928	0.366	1.206	YSO2
23	J035402.28+533423.6	0.664	2.215	15.265	0.531	0.853	YSO2
24	J035404.09+531238.5	0.728	1.491	17.178	1.066	2.410	YSO2
25	J035404.27+530317.4	0.325	1.503	16.104	1.162	0.668	YSO2
26	J035409.01+534600.1	0.421	0.848	10.235	0.488	0.500	YSO2
27	J035411.14+533209.0	0.710	2.611	15.449	0.831	1.158	YSO2
28	J035411.27+531037.6	2.178	4.192				YSO1
29	J035413.55+531022.5	2.004	2.160				YSO1
30	J035418.76+533217.0	0.536	1.708	15.241	0.766	0.535	YSO2
31	J035420.11+532953.7	0.608	2.256	14.520	0.473	0.706	YSO2
32	J035422.88+533151.0	1.490	0.596	18.419	2.108	1.585	YSO1
33	J035429.24+532117.4	0.413	1.133	14.289	0.587	0.783	YSO2
34	J035431.98+532932.1	0.868	1.935	16.355	0.980	1.052	YSO2
35	J035433.96+530707.7	0.911	2.342	16.363	0.968	1.338	YSO2
36	J035435.33+532152.0	0.607	2.709	15.696	0.786	0.724	YSO2
37	J035448.63+531244.2	0.327	1.435	13.988	0.359	0.517	YSO2
38	J035450.32+534512.1	0.497	0.990	15.806	0.784	0.850	YSO2
39	J035450.47+534452.0	1.016	1.770	17.580	1.368	1.588	YSO2
40	J035451.90+534550.7	0.912	2.500	16.702	1.080	1.202	YSO2
41	J035452.82+531845.5	0.561	2.055	15.032	0.591	1.013	YSO2
42	J035454.14+531021.8	1.187	2.890	15.217	0.809	1.476	YSO1
43	J035456.83+532258.6	0.675	2.046	14.357	0.622	0.717	YSO2
44	J035457.77+534448.0	0.850	2.263	16.515	1.185	1.047	YSO2
45	J035500.84+534427.3	0.608	1.998	15.586	0.721	1.199	YSO2
46	J035514.07+532107.6	2.670	4.225	17.061	1.348	2.013	YSO1
47	J035518.10+534631.7	0.853	2.577	16.346	1.127	1.060	YSO2
48	J035524.67+534327.3	1.674	2.903	17.311	1.485	2.487	YSO1
49	J035527.57+534926.1	0.731	1.898	15.305	0.730	0.939	YSO2
50	J035528.93+534734.6	0.692	1.544	16.103	0.972	0.987	YSO2
51	J035529.82+534610.6	0.877	2.017	16.473	1.345	1.403	YSO2

Table 4.2.: Continued

No.	ALLWISE No.	W1–W2 mag	W2–W3 mag	<i>J</i> mag	<i>H</i> – <i>K_s</i> mag	<i>K_s</i> –W1 mag	Type
52	J035530.05+534541.9	1.201	2.316	12.551	1.266	1.523	YSO2
53	J035531.44+535419.7	0.737	2.770	13.784	0.816	1.221	YSO2
54	J035531.57+534628.8	0.745	1.419	15.949	0.931	1.210	YSO2
55	J035531.58+534730.2	2.425	3.126				YSO1
56	J035535.47+534750.0	0.610	1.519	15.824	0.871	1.091	YSO2
57	J035538.37+534615.1	0.919	2.002	17.783	1.145	0.989	YSO2
58	J035542.74+535007.3	1.169	2.597	13.916	1.658	1.660	YSO1
59	J035545.25+534840.9	0.652	2.143	13.725	0.877	1.078	YSO2
60	J035545.43+535106.5	1.169	2.509	18.021	2.274	2.437	YSO1
61	J035552.50+535320.3	1.258	2.574	16.115	1.030	1.233	YSO1
62	J035553.64+535127.5	0.662	0.400	17.030	1.301	0.955	YSO2
63	J035601.14+533724.0	0.437	2.346	15.381	0.863	1.014	YSO2
64	J035601.39+534901.5	0.490	1.695	14.513	1.037	0.499	YSO2
65	J035601.86+535601.2	0.487	1.755	14.921	0.656	0.533	YSO2
66	J035602.70+535051.5	0.917	2.268	14.809	0.670	1.125	YSO2
67	J035603.35+535235.1	1.260	2.005	13.303	1.702	1.312	YSO2
68	J035604.76+535009.7	1.603	2.518	18.215	1.485	2.559	YSO1
69	J035607.49+535008.0	2.526	3.554				YSO1
70	J035608.07+535345.0	1.806	2.019	18.281	1.584	2.487	YSO1
71	J035608.30+534526.1	0.441	0.930	11.617	0.560	0.494	YSO2
72	J035608.37+534926.6	1.270	2.293	16.573	1.771	1.483	YSO1
73	J035611.02+534717.5	2.376	3.574				YSO1
74	J035615.38+535019.7	1.685	4.420				YSO1
75	J035615.75+534127.1	2.945	3.603				YSO1
76	J035615.97+534234.3	0.767	1.956	15.156	1.138	1.323	YSO2
77	J035616.27+535302.5	0.758	2.445	13.623	0.762	0.946	YSO2
78	J035616.64+535041.3	1.440	2.726	17.679	0.263	2.202	YSO1
79	J035616.65+535131.1	0.946	2.216	15.820	1.344	1.490	YSO1
80	J035622.03+535244.9	0.685	2.127	15.725	0.685	0.920	YSO2
81	J035627.77+535338.0	1.463	2.541	16.909	2.393	3.147	YSO1
82	J035628.70+535355.8	1.627	3.414	18.383	1.453	2.660	YSO1
83	J035659.43+535340.3	1.718	2.646	17.477	1.809	2.103	YSO1
84	J035703.08+535518.0	0.432	2.145	14.846	0.537	0.338	YSO2
85	J035705.83+534959.0	1.037	2.120	13.529	0.421	1.203	YSO2
86	J035719.77+535440.3	0.875	2.495	15.974	1.171	1.159	YSO2

Table 4.2.: Continued

No.	ALLWISE No.	$W1-W2$ mag	$W2-W3$ mag	J mag	$H-K_s$ mag	K_s-W1 mag	Type
87	J035726.74+535319.6	1.557	2.703	17.141	2.018	2.179	YSO1
88	J040119.93+531122.1	0.430	0.983	11.142	0.495	0.663	YSO2

4.3. YSOs in the King 7 area

In the investigated area we found 28 YSOs listed in Table 4.3, among them two stars belong to Class I and 26 to class II. One of these YSOs was identified by Straizys & Laugalys (2007b), one by Straizys & Kazlauskas (2010) and one by Romero & Cappa (2009) using the 2MASS, MSX and IRAS surveys. YSOs surface distribution exhibits no strong clustering into the dust clouds seen in the dust map by Schlegel et al. (1998), but two concentrations of YSOs could be identified in the investigated area. The first contains 8 YSOs and is situated in the vicinity surrounded by reflection nebulae GN 03.56.2, GM1-34, H II region BFS 33, IRAS03561+5124 source and IR cluster Camargo 440. The second clustering contains 4 YSOs and is surrounded by dark clouds TGU H989 P2 and Dobashi 4059. The dense core PLCKECC G149.52-01.23 and IRAS03528+5142 source are also situated in that area.

We crossmatched our identified YSOs with our photometric catalogue (Zdanavičius et al. 2010) and found that YSO No. 1 (Table 4.3) is only 0.45 arcsec apart from the star No. 230, classified as b2.5 III star located at 4.91 kpc. Corbally & Straizys (2009) classified this star (Gahm 11 in their list), also known as EM* GGA 271, as F0e and this classification is given in the Simbad database. We also crossmatched our YSO list with the objects that are available in the Simbad database and found that positions of YSOs No 1, 5, 16, and 21 (Table 4.3) with accuracy better than 1'', are the same as EM* GGA 271 (emission line star), V 929 Per (long period variable), V939 Per (long period variable), and V942 Per (RR Lyr), respectively.

Table 4.3.: YSOs identified in the King 7 area

No.	ALLWISE No.	W1–W2 mag	W2–W3 mag	<i>J</i> mag	<i>H–K_s</i> mag	<i>K_s–W1</i> mag	Type
1	J035614.13+522603.0	0.358	0.892	10.899	0.316	0.219	YSO2
2	J035624.95+514202.3	0.568	2.328	13.675	0.517	0.676	YSO2
3	J035634.19+514833.1	0.751	2.733	13.982	0.669	0.941	YSO2
4	J035642.48+520525.5	0.412	1.717	14.66	0.505	0.459	YSO2
5	J035652.62+514850.5	0.565	2.536	12.168	0.551	0.819	YSO2
6	J035654.35+521652.1	0.407	1.219	12.986	0.402	0.14	YSO2
7	J035655.38+515153.3	1.406	2.752	16.968	1.512	0.93	YSO1
8	J035700.58+514734.7	0.418	2.392	13.289	0.501	0.421	YSO2
9	J035713.86+515926.7	0.485	1.511	13.427	0.484	0.886	YSO2
10	J035715.59+512951.8	0.72	2.197	14.202	0.462	0.904	YSO2
11	J035831.65+520242.0	0.388	0.828	11.276	0.477	0.541	YSO2
12	J035841.03+513723.9	0.535	1.88	15.852	0.915	0.985	YSO2
13	J035928.38+522003.1	0.283	2.31	14.274	0.344	0.387	YSO2
14	J035931.01+513540.0	0.522	1.978	13.561	0.736	0.822	YSO2
15	J035936.40+513601.4	0.439	1.727	14.054	0.416	0.185	YSO2
16	J035939.04+513337.5	0.39	2.382	12.168	0.397	0.871	YSO2
17	J035953.41+513146.3	0.697	1.435	12.258	0.691	0.994	YSO2
18	J035954.22+513051.1	0.757	1.825	16.016	1.004	1.142	YSO2
19	J035956.48+513142.1	0.696	2.216	13.325	0.827	0.892	YSO2
20	J035958.48+513705.6	0.432	2.033	13.336	0.472	0.607	YSO2
21	J040006.19+513902.1	0.525	0.6	14.158	0.601	1.028	YSO2
22	J040046.73+521255.8	0.56	2.359	14.519	0.296	0.735	YSO2
23	J040135.39+514934.8	2.517	3.133				YSO1
24	J040232.13+513958.0	0.397	1.654	14.75	0.44	0.482	YSO2
25	J040233.89+513948.7	0.561		15.246	0.559	0.794	YSO2
26	J040238.82+511550.1	0.687	2.405	15.215	0.759	0.966	YSO2
27	J040243.98+515416.7	0.618	2.314	15.803	0.782	0.93	YSO2
28	J040300.11+512217.6	0.796	1.71	14.66	1.077	1.446	YSO2

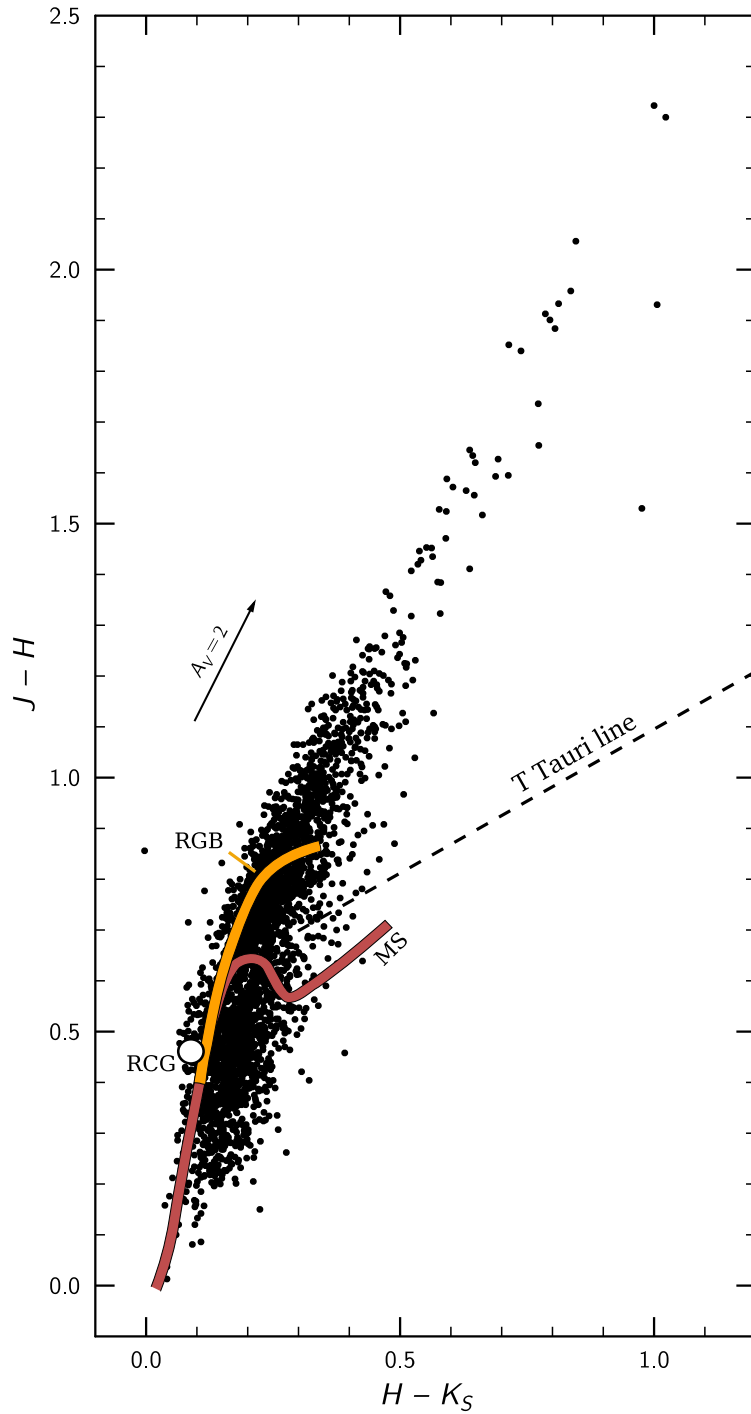


Figure 4.1.: The $J-H$ vs. $H-K_s$ diagram for 3230 stars in investigated TGU H994 P1 area. Only stars with the magnitude errors ≤ 0.03 mag are plotted. The main sequence (MS, brown line), the red giant branch (RGB, orange line), the intrinsic locus of red clump giants (RCG, red circle), the intrinsic line of T Tauri stars (broken line) and the reddening line for $A_V = 2$ mag are shown.

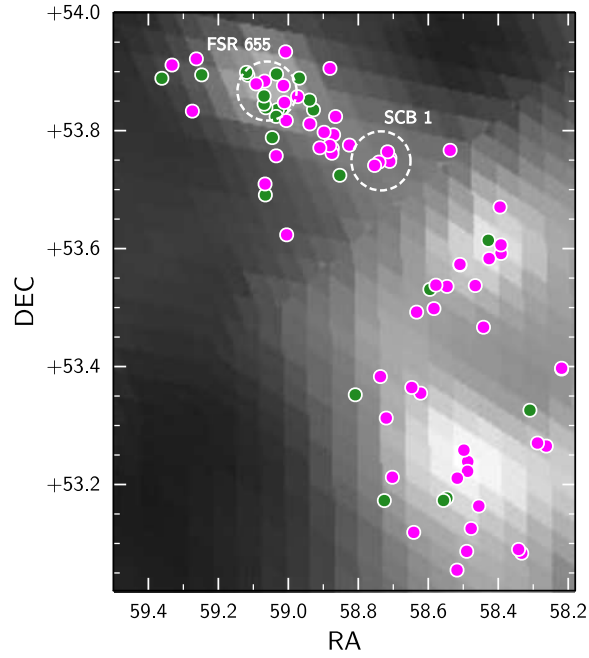


Figure 4.2.: Surface distribution of YSOs of types I (green circles) and II (red circles) in the Sh2-205 area. Dust map from Schlegel et al. (1998) is shown in the background. The cluster FSR 655 and the new possible infrared cluster SCB 1 are marked with broken circles.

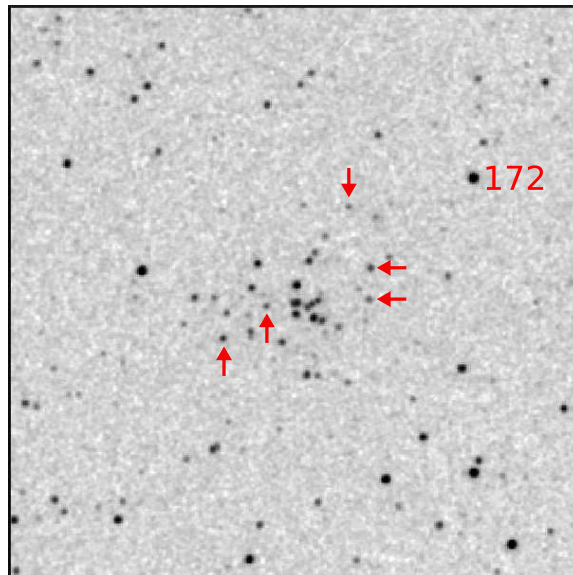


Figure 4.3.: New possible infrared cluster SCB 1 at $\alpha(2000) = 03^{\text{h}}54^{\text{m}}56^{\text{s}}$, $\delta(2000) = +53^{\circ}45'$ identified in the investigated area. The image of $0.1 \times 0.1 \text{ deg}^2$ size in the 2MASS filter K_s is taken from the SkyView Virtual Observatory. The five YSOs are marked with arrows. The star 172 is present in the Table A.3 ($V = 12.53$, A5 V).

Chapter 5

Results and discussion

5.1. Dark cloud TGU H994 P1 area

The distance to the cloud TGU H994 P1 estimated in Sect. 3.3 is based on the assumption that the reddened star No. 428 (k1 V) has appeared at 111 pc owing to a negative 3σ distance error. Then the true distance of this star should be at 140 pc, where the cloud causing its reddening is located. This result is also supported by a few stars with low extinction and distances up to 180 pc. If these stars are located in front of the cloud, i.e. at 140 pc, they could be shifted to their apparent positions because of positive 3σ distance errors. A distance of 140 pc is in agreement with the distance to the complex of the Taurus dark clouds located on the opposite side of the Milky Way disk. On the other hand, the Camelopardalis complex of dark clouds can be very deep along the sightline, as is the case with the Taurus complex, which has a depth of up to 50 pc or more, determined from radio interferometry of young stellar objects (Loinard et al. 2011) and from interstellar line strengths (Welsh et al. 2010; Lallement et al. 2014) combined with the Hipparcos parallaxes.

The investigated area is located at $b = \sim 4^\circ$, and this means that with increasing distance our sightline recedes from the Galactic plane: the height above the plane is 70 pc at 1 kpc, 140 pc at 2 kpc, 280 pc at 4 kpc, etc. The expected extinction rise due to the diffuse dust layer near the plane (the Parenago law, Fig. 3.2) at $d > 1$ kpc should be rather low. Therefore, the extinction level at large distances must be defined mainly by the cloud with an additional small component caused by the diffuse dust layer. This is confirmed by the extinction versus distance plot in Fig. 3.3, where the results of deep classification of stars up to ~ 19 mag are shown. The minimum extinction in the most transparent directions remains at about 1.5–2 mag, and the maximum extinction in the directions where our sightline crosses peripheries of the dense clouds is between 4 and 5 mag. At the distances of the Perseus Arm and the Outer Arm, our sightline is about 100–140 pc and 350 pc above the plain. Thus, the influence of dust content in these two arms is not detectable.

Fig. 5.1 shows that RCGs exhibit more or less the same minimum extinction level close to $A_V = 1.5$ –2 found for the other stars classified in the Vilnius system (Figs. 3.2 and 3.3). However, the maximum extinction is larger by about 1.5–2.5 mag, reaching about 6.5 mag in the dark filaments and around them.

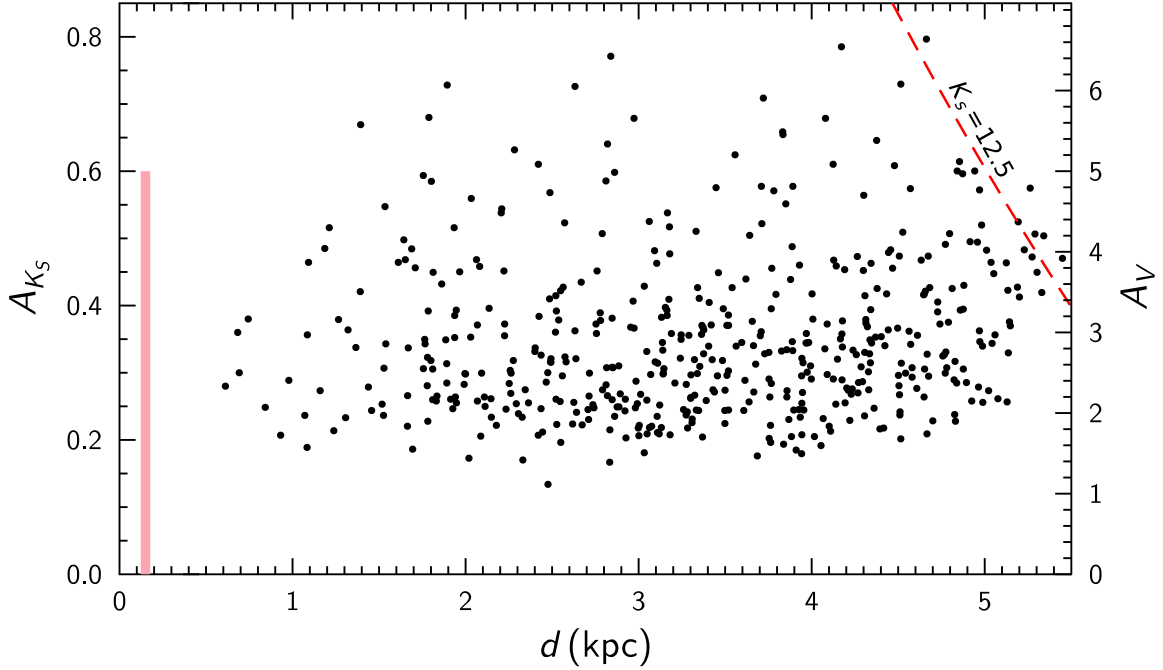


Figure 5.1.: The extinction A_{K_s} vs. distance in the TGU H 994 area for the RCGs identified combining the 2MASS and WISE magnitudes. The vertical line designates the accepted position of the cloud TGU H994 P1 at 140 pc. The red broken curve designates RCGs at the limiting magnitude $K_s = 12.5$ mag.

5.2. H II region Sh2-205 area

The investigated area is rather non-uniform with respect to distribution of interstellar extinction in the Local Arm. The largest extinction is found in the directions of the clumps P7 and P8, including the chain of the Dobashi (2011) clouds with numbers 4040–4051. However, differences in the extinction become evident only at distances exceeding ~ 400 pc. At smaller distances the whole area is covered by the nearest clouds more or less uniformly. The nearest cloud layer begins at a distance of 130 ± 10 pc, where the extinction A_V steeply rises from 0.3 to 1.8 mag (Fig. 3.4). Between 200 and 400 pc the extinction continues to rise up to 2.7 mag. Another jump of extinction up to ~ 4 mag is possible at a distance of 500–600 pc, it is better visible in Fig. 3.6. The space between the Local and Perseus arms (1–1.5 kpc) should be free of dust. This, however, seems to be confirmed only by RCGs in Fig. 5.2 since the extinction in Figs. 3.5 and 3.6 in this distance range is affected by the limiting magnitude effect and the scatter of stars because of classification and distance errors. For some RCGs, located within and behind the Perseus Arm, the extinction A_V becomes as large as ~ 8 mag (Fig. 5.2). However, these stars lie outside the densest parts of the clouds. Within the clouds the extinction can be estimated by the dust maps by Schlegel et al. (1998) based on the 100 μm dust emission, calibrated by Schlafly & Finkbeiner (2011), see the NED database. These maps give the values of $A_V \sim 9.3$ mag in the center of P7 (or Dobashi 4043), 15.0 mag between Sh2-205 and the clump P8, and 13.4 mag in the dust cloud Dobashi 4042 above Sh2-205 (see Fig. 1.3).

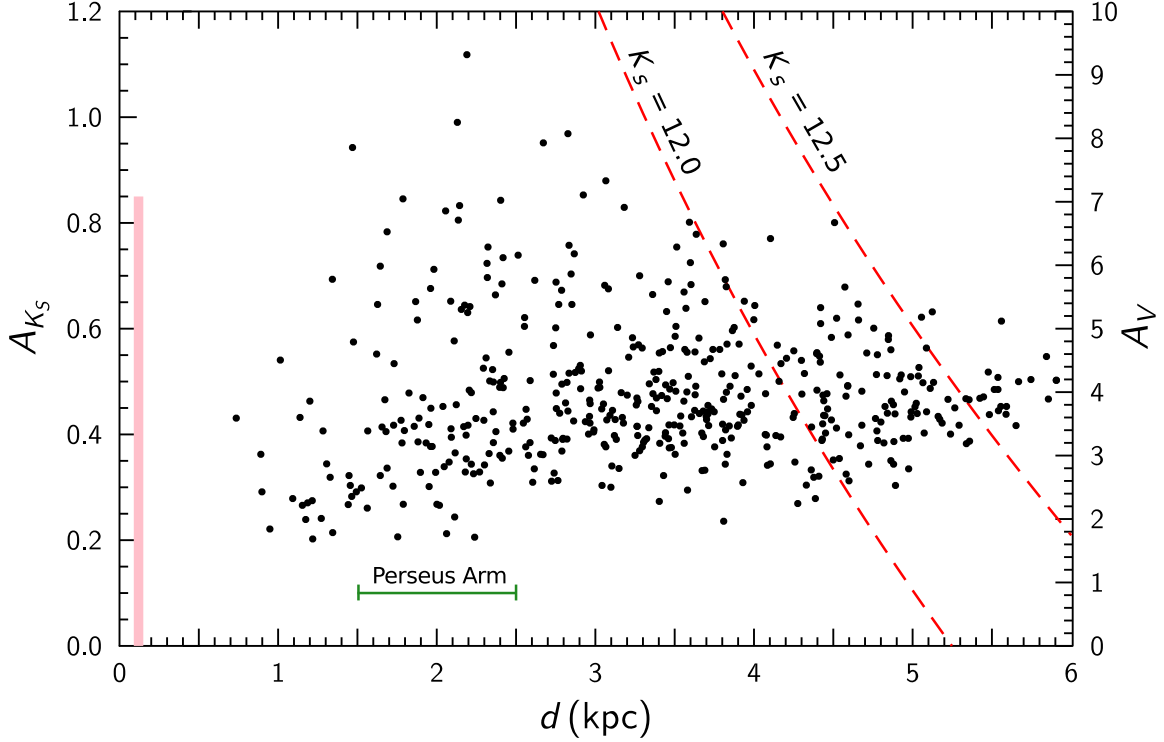


Figure 5.2.: The extinction A_{K_s} vs. distance in the Sh2-205 area for 662 RCGs identified combining the 2MASS and WISE magnitudes. The vertical line designates the accepted position of the nearest layer of dust at 130 pc. The two broken curves designate RCGs at the limiting magnitudes $K_s = 12$ and 12.5 . The shown distance of the Perseus Arm is the average value from Reid et al. (2014) and Vallée (2014).

The lowest values of A_V at distances > 1 kpc, determined from Figs. 3.5, 3.6 and 5.2, are close to 1.5–2.0 mag. Probably in these directions distant stars are observed through semi-transparent windows between clouds.

The extinction distribution in the area can be compared with distribution of molecular clouds applying radio observations of CO lines from Dame et al. (2001). In this case, instead of the distance, we may use radial velocities of molecular clouds which are functions of the distance due to Galactic rotation. The positions of CO clouds within our area, shown in Straižys & Laugalys (2007a) and Straižys & Laugalys (2008), approximately coincide with the largest dust concentrations. The analysis of the Dame et al. (2001) data shows that the local standard of rest (LSR) radial velocities of CO clouds P7 and P8 mostly concentrate in the three intervals with maxima at -2.5 km/s, ~ -6 km/s and ~ -34 km/s. The first two intervals correspond to the Local Arm, and the third one to the Perseus Arm. To estimate galactocentric distances R to CO clouds we applied the equation of kinematic distances:

$$R = R_0 \sin(\ell) \frac{V_R}{V + V_0 \sin(\ell)}, \quad (5.1)$$

where V is its measured radial velocity, V_R is the accepted galactocentric orbital velocity of the cloud (taken from the Galactic rotation curve), R_0 is the galactocentric radius of the solar orbit, V_0 is the solar orbital velocity, ℓ is the Galactic longitude (in our case 148.3°). In the calculations we

took the values of R_0 and V_0 from Bovy et al. (2012) and Reid et al. (2014), in both cases the flat Galactic rotation curve was accepted.

Heliocentric distances to the clouds d were calculated from R with the equation

$$d = \frac{(R - R_0)}{\cos(180 - \ell)}. \quad (5.2)$$

In the case of the Bovy et al. (2012) parameters, $R_0 = 8.10$ kpc and $V_0 = 218$ km/s, we obtain $d = 208$ pc at $V_r = -2.5$ km/s and $d = 520$ pc at $V_r = -6$ km/s. In the case of the Reid et al. (2014) parameters, $R_0 = 8.34$ kpc and $V_0 = 240$ km/s, the corresponding distances d are 196 pc and 485 pc. Thus, the first layer of CO clouds with the kinematic distance ~ 200 pc can be related to the local dust layer between 130 and 300 pc seen in Figs. 3.5 and 3.6. The second CO layer with the kinematic distance ~ 500 pc can correspond to the jump of extinction at 500–600 pc described in Chapter 3.2. Since the infrared cluster FSR 655 and the new cluster SCB 1, identified in this paper, seem to be related with the chain of dust clouds P7, Dobashi 4042 and P8, as well as with the concentration of YSOs in these clouds, their distances should be similar, probably within 500–600 pc.

We do not give any kinematic distance corresponding to the velocity -34 km/s, since in the Perseus arm CO clouds and star-forming regions exhibit considerable departures from the circular rotation due to streaming and expanding motions (Sitnik 2003; Vallée 2008; Choi et al. 2014; Foster & Brunt 2015).

The distance to the Sh2-205 nebula is of a special interest. Its ionized areas seem to be tangled with the dust clump P8, so there is an impression that both the nebula and the dust cloud are at the same distance. Trying to verify this, we collected from the literature all known determinations of radial velocities of the nebula and the adjacent HI and CO clouds to calculate their kinematic distances. Unfortunately, the results described in the next paragraph are contradictory.

Probably the first value of radial velocity of Sh2-205, -25.8 km/s, corresponding to its $H\alpha$ line, was published by Blitz et al. (1982). However, in the same paper a note is given which says that there is another $H\alpha$ line at -7 km/s, which is considered as belonging to the foreground. Also for the $H\alpha$ line, Fich et al. (1990) find a value of -16.8 km/s. Fich & Blitz (1984) for the associated CO cloud find a value of -25.8 km/s. Foster & MacWilliams (2006) for the associated HI cloud find -6.0 km/s. Foster & Brunt (2015) find -6.48 km/s for CO and -14.24 km/s for HI. The last value of velocity for CO is very close to the middle value obtained from the Dame et al. (2001) CO data above in this section. The values close to -20 km/s are more appropriate to the Perseus Arm. As the explanation of such differences in the measured radial velocities, we may suggest peculiar motions at different positions of the clouds. In some cases, the velocities could be measured for the clouds of the Perseus Arm seen through translucent clouds in the vicinity of Sh2-205. A special investigation of the velocity field in the vicinity of this nebula would be helpful.

The possible ionizing stars of the Sh2-205 nebula and its southern extension are: HD 24431, (O9 from III to V), HD 24094 (CY Cam, B1 III to V), HD 23675 (B0 III), and ALS 7793 (B1 V). All of them are located within 1° from Sh2-205. The $H\alpha$ map from Finkbeiner (2003), available at

the SkyView Virtual Observatory, shows that the first two of these stars are surrounded by dense H II regions. The northern region around CY Cam is the Sh2-205 nebula; it is located at the right-hand edge of the area investigated in the present paper. The southern region around HD 24431 is located about 0.5° south from the lower edge of our area. The IRAS images and the composite WISE map¹ show that in 20–60 μm maps CY Cam is surrounded by a double lens-like $4' \times 7'$ spot of emission which probably originates in warm dust grains. At 100 μm this emission is absent. At an angular distance of $12'–15'$ this lens is surrounded by an envelope of rectangular shape with emission originating in cold dust grains (IRAS 100 μm map) and the molecules of polycyclic aromatic hydrocarbons (PAHs, WISE 12 μm map). In the vicinity of ALS 7793, both the dust and PAH emissions are also present. The star HD 23675 does not exhibit its own H II region, as well as emission from dust and PAH molecules.

Photometric distance to CY Cam is uncertain because of its doubtful luminosity class and a possibility that the star is close binary. If the star is of spectral class B1 V with $M_V = -3.4$ mag, we get its extinction $A_V = 2.25$ mag and the distance $d = 780$ pc. If the star is a binary with two identical components, then its distance should be increased by a factor of 1.41, i.e. it becomes about 1.1 kpc. This would mean that the star, as well as the S2-205 nebula, are much farther from the Sun than the chain of dust clouds scattered in its apparent vicinity.

5.3. Star cluster King 7 area

Fig. 5.3 shows the A_{K_s} vs. d plot in the investigated area for 527 RCGs up to 6 kpc. The right-hand y-axis shows the extinctions transformed to the A_V scale with the equation

$$A_V = 8.3A_{K_s}, \quad (5.3)$$

The two curves in the right part of Fig. 5.3 show the limiting magnitude effect for RCGs of magnitudes $K_s = 12.5$ and 12.0 . The accuracy of the extinction and distance can be estimated with the equations $\sigma(A_{K_s}) = \pm 0.115A_{K_s}$ and $\sigma(d) = \pm 0.042d$ (Straižys et al. 2015).

The number of RCGs with $d < 1$ kpc is rather small because of a few reasons: (1) the decrease of space volume, (2) the exclusion of stars with $H-K_s < 0.10$ (see the previous paragraph) and (3) the saturation of images in the $W2$ passband. However, the steep extinction rise at 800–900 pc seems to be real, since it repeats a similar extinction jump in Fig. 3.7, but to much higher extinction values. Most of identified RCGs are located in the Perseus Arm (1.5–2.5 kpc from the Sun) and behind it. In the Perseus Arm there is slight increase of the extinction. The maximum value of $A_V = 6.7$ mag is reached at 3 kpc. Beyond the far edge of the Perseus Arm the extinction ceases to grow, remaining at the average value of ~ 4 mag.

Figure 5.4 shows the surface distribution of dust across the Galaxy in the $1.5^\circ \times 1.5^\circ$ area centered on King 7 according to Schlegel et al. (1998). Their atlas has been plotted using the 100 μm dust

¹ WISE Multimedia Gallery Images,
wise.ssl.berkeley.edu/gallery_images.html

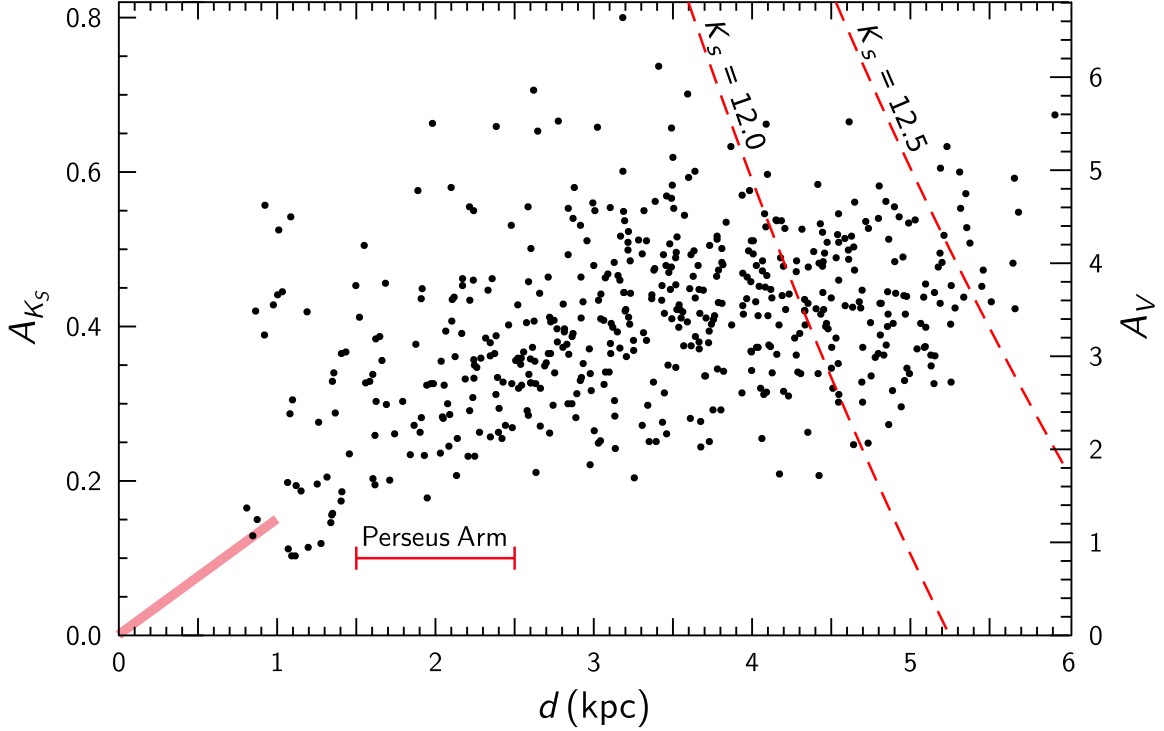


Figure 5.3.: Dependence of the extinction on distance in the King 7 area for 527 RCGs up to $d = 6$ kpc. The straight line from the origin of coordinates up to $(A_{K_s}, d) = (0.15, 1.0)$ shows the average extinction run from Fig. 3.7. The two broken curves show the limiting magnitude effect for RCGs at $K_s = 12$ and 12.5 mag. The horizontal bar shows the expected position of the Perseus arm.

emission observed by the IRAS and COBE space missions with a resolution of about $2.4'$ per pixel. Dust distribution with much higher resolution, $\sim 6''$, can be estimated applying the $W3$ passband of the WISE mission which covers the wavelength range $8\text{--}16 \mu\text{m}$ (Wright et al. 2010). This range includes some strong emission bands at 8.6 , 11.3 and $12.7 \mu\text{m}$ and the underlying blended emission plateaus belonging to molecules of polycyclic aromatic hydrocarbons (PAHs). These molecules usually are well mixed with dust, and the intensity of their emission can be accepted as an indicator of interstellar extinction (Giard et al. 1994; Whittet 2003). Fig. 5.5 shows the $W3$ map for the same King 7 area. It is evident that large-scale distributions of PAHs in the $W3$ passband and dust emission at $100 \mu\text{m}$ (Fig. 5.4) are very similar. However, due to higher resolution, the $W3$ map shows much more details.

Figs 5.4 and 5.5 show that the most transparent directions in the investigated area are in both upper corners and along the right border of the area. The highest concentration of dust is seen in the lower left corner of the area, in the direction of the emission nebula Sh2-206. However, surface distributions of the dust and PAH emission are of little use for the estimation of distances to the clouds which are expected to cover the Local and Perseus arms.

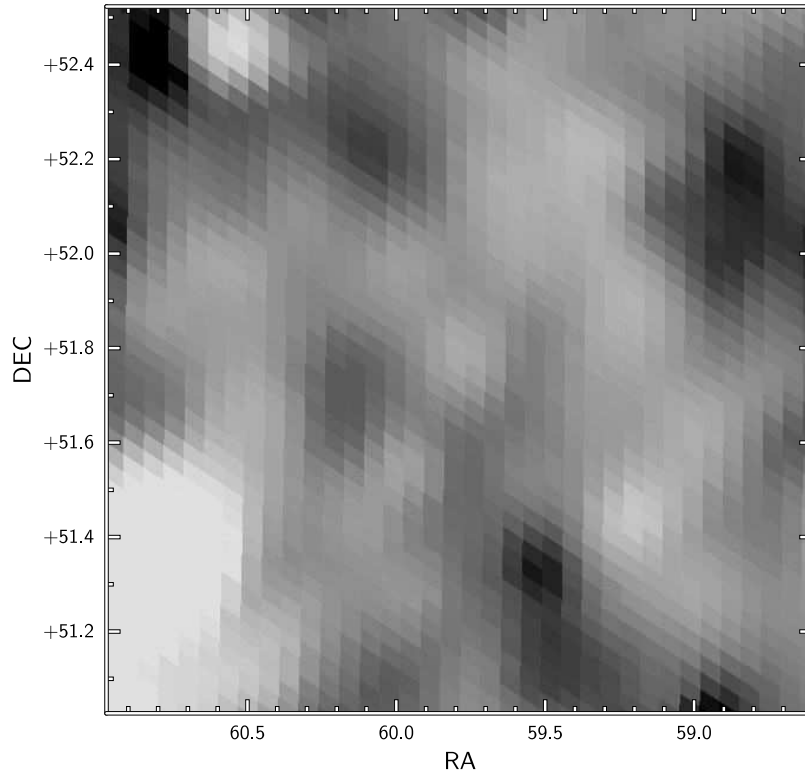


Figure 5.4.: Dust map based on the emission at $100\ \mu\text{m}$ measured by the IRAS and COBE space missions (Schlegel et al. 1998). The area is of the $1.5^\circ \times 1.5^\circ$ size centered on the King 7 cluster.

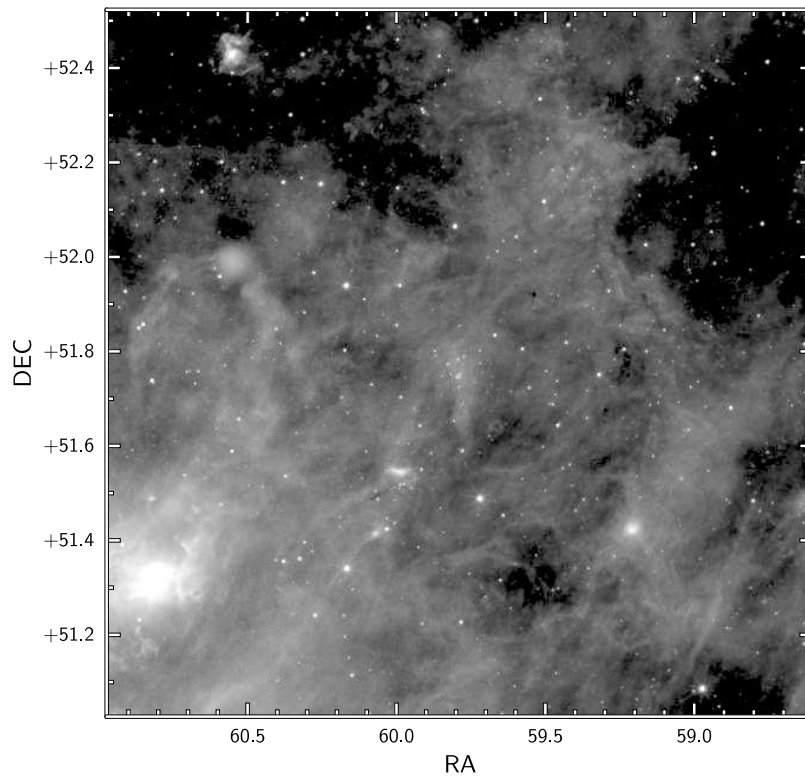


Figure 5.5.: The WISE map in the $W3$ ($12\ \mu\text{m}$) passband of the same area as in Fig. 5.4

Conclusions

1. Interstellar extinction is investigated in a 1.5 square degree area in the vicinity of the dark cloud TGU H 994 P1 at $\alpha(2000) = 04^{\text{h}}25^{\text{m}}30^{\text{s}}$, $\delta(2000) = +54^{\circ}55'00''$. Based on photometric classification of 584 stars down to $V = 17$ mag and of 447 stars down to $V = 20$ mag, the distance to the dust cloud TGU H994 clump P1 is estimated to be 140_{-31}^{+36} pc.
2. Interstellar extinction is investigated in a 1.5 square degree area in the vicinity of the H II region Sh2-205 at $\alpha(2000) = 03^{\text{h}}57^{\text{m}}00^{\text{s}}$, $\delta(2000) = +53^{\circ}40'00''$ (in the direction of two clumps (P7 and P8) of the dust cloud TGU H942). Based on photometric classification of 628 stars down to $V=17$ mag and of 238 stars down to $V = 19.5$ mag, it was determined, that the dust concentrates at least in two layers at 130_{-27}^{+35} pc and 500–600 pc.
3. Interstellar extinction is investigated in a 1.5 square degree area in the direction of the open cluster King 7 at $\alpha(2000) = 03^{\text{h}}59^{\text{m}}00^{\text{s}}$, $\delta(2000) = +51^{\circ}48'00''$. Based on photometric classification of 982 stars down to $V = 16$ mag, it was determined that the dust in the investigated area concentrates at least in two layers at 250_{-52}^{+65} pc and 1.3–1.5 kpc.
4. Active star formation was determined in the H II region Sh2-205 and cluster King 7 areas.
5. A new infrared star cluster at $\alpha(2000) = 03^{\text{h}}54^{\text{m}}56^{\text{s}}$, $\delta(2000) = +53^{\circ}45'00''$ was found and named SCB 1.

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Appendix A

Photometry and classification of stars

A.1. Maksutov photometry and classification of stars in the TGU H994 P1 area

Table A.1 Results of photometry and classification of stars in the TGU H994 P1 area. The stars with two asterisks in the last column were not classified in two dimensions since their images are asymmetrical, i.e., these stars are double or multiple. The components of some of them are seen separately, but they are closer than 7".

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1	4:21:06.63	+54:35:46.2	12.39	5.86	5.05	3.51	1.57	0.62	1.49	k1 IV		
2	4:21:06.65	+54:33:18.8	14.78	3.69	2.92	2.09	0.95	0.33	0.87	g3 IV	1.45	2920
3	4:21:09.67	+54:43:07.1	15.86			2.58	1.03	0.64	1.02	k7	0.47	208
4	4:21:09.71	+54:23:45.8	14.42	3.62	2.63	1.65	0.83	0.30		a3 **	2.57	1950
5	4:21:09.82	+54:43:56.7	13.59	3.10	2.58	1.81	0.80	0.31	0.78	g4 V	0.94	359
6	4:21:09.97	+54:42:13.1	14.74		3.78	2.78	1.03	0.65	1.13	k9 V	0.46	137
7	4:21:10.86	+54:46:57.3	13.41	3.24	2.56	1.78	0.83	0.30	0.79	f8 IV	1.48	450
8	4:21:12.34	+54:44:31.4	11.10	3.53	3.00	2.08	0.90	0.36	0.88	g8.5 V		
9	4:21:12.41	+54:24:22.3	13.79	3.17	2.57	1.80	0.82	0.31		f9 V	1.21	453
10	4:21:14.11	+55:14:03.4	15.09	3.38	2.83	1.95	0.87	0.35	0.80	g5.5 V	1.22	550
11	4:21:14.83	+54:53:26.6	15.35			2.76:	1.09	0.66	1.15	k6	0.46	132
12	4:21:16.71	+54:46:59.8	13.81	4.13	3.55	2.49	1.00	0.51	1.01	k3 V		
13*	4:21:17.06	+55:11:16.7	9.29	2.91	2.14	1.17	0.56	0.21	0.50	a2 V	1.56	212
14	4:21:19.31	+54:28:03.0	13.08	3.63	2.61	1.61	0.80	0.28	0.70	a1.5 IV	2.55	890
15	4:21:19.66	+55:21:50.3	14.46	3.91	2.70	1.80	0.90	0.31	0.77	a5		
16	4:21:21.48	+55:14:44.8	14.31	3.29	2.62	1.85	0.87	0.31	0.81	f7 IV	1.6	600
17	4:21:21.49	+55:14:14.1	12.35	2.91	2.22	1.45	0.68	0.25	0.64	f1 V	1.5	590
18	4:21:22.41	+54:58:08.9	13.25	3.21	2.49	1.74	0.83	0.29	0.76	f4 V	1.53	700
19	4:21:23.11	+55:16:53.4	14.80	3.08	2.27	1.52	0.85	0.32	0.67	b7 III	3.11	4040
20	4:21:24.41	+55:18:42.8	14.52	3.16	2.29	1.50	0.80	0.28	0.68	b8 IV	2.69	2730
21	4:21:24.61	+54:33:23.7	15.21			3.75:	1.65	0.68	1.53	k1		
22	4:21:24.90	+55:00:06.6	13.86			3.36	1.53	0.58	1.41	k0 IV		
23	4:21:25.30	+55:16:58.1	16.35		2.27	1.51	0.82	0.31	0.69	k-m		
24	4:21:26.88	+55:04:43.2	16.16			2.95	1.26	0.65	1.21	k4.2 V	2.32	280
25	4:21:27.07	+55:26:04.2	14.17	3.52	2.07	1.63	0.78	0.26	0.80	a		
26	4:21:28.13	+54:42:05.5	12.88	2.78	2.23	1.58	0.72	0.27	0.68	f8 V	0.86	401
27	4:21:29.20	+54:26:10.7	13.39	3.09	2.52	1.78	0.81	0.31	0.76	g0 V	1.22	388
28	4:21:29.55	+54:45:18.0	14.39	3.19	2.63	1.86	0.82	0.32	0.77	g4 V	1.03	469
29	4:21:30.07	+54:27:25.0	15.09	3.33	2.64	1.88	0.89	0.34	0.81	f7 IV	1.71	870
30	4:21:30.94	+54:21:49.8	15.98			2.76:	1.31	0.44		k-m		
31	4:21:31.22	+54:27:01.4	14.88	3.31	2.59	1.85	0.91	0.34	0.86	f4 V	2.6	1370
32	4:21:31.55	+55:16:21.4	14.75			3.47	1.57	0.59	1.38	k0 III	3.22	1460

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
33	4:21:32.17	+55:16:48.6	15.84			2.69:	1.13:	0.62	1.24	m1	0.06	150
34	4:21:32.26	+54:56:14.5	15.72			2.39	1.04	0.47	0.99	k1.2 V	1.68	425
35	4:21:32.77	+54:48:39.2	11.52	3.80	3.25	2.25	0.96	0.39	0.91	k0 V	1.26	271
36	4:21:33.09	+54:25:06.3	15.42	2.79	2.05	1.42	0.75	0.27	0.65	b **	2.59	4960
37	4:21:34.95	+54:58:34.6	15.47			2.54	0.97	0.50	0.99	k2.5:	1.0	340
38	4:21:35.77	+55:16:37.6	14.13	3.43	2.86	1.99	0.91	0.34	0.87	g4 V	1.44	401
39*	4:21:35.93	+55:17:17.0	9.67	2.39	1.97	1.31	0.57	0.24	0.57	f9 V	0.25	108
40	4:21:35.99	+55:15:30.4	13.25	2.33	1.81	1.28	0.70	0.25	0.58	b4 V	2.5	2140
41	4:21:36.96	+54:24:40.0	15.72			3.19	1.42	0.59	1.32	k0.5 V		
42	4:21:37.85	+54:37:10.8	14.30	2.85	2.21	1.62	0.86	0.31	0.75	b4	3.04	2140
43	4:21:38.58	+54:26:12.5	14.79			3.28	1.48	0.58	1.38	k0.5 IV	3.06	530
44	4:21:38.79	+55:13:30.5	14.65	2.88	2.21	1.51	0.83	0.28	0.85	b6	3.08	4720
45	4:21:40.00	+55:25:32.7	13.93	3.50	2.32	1.91	0.92	0.33	0.88	a3		
46	4:21:40.17	+54:57:28.7	14.95			3.84:	1.68	0.71	1.56	k1 **		
47	4:21:40.71	+55:15:38.4	15.33	3.00	2.26	1.45	0.78	0.27	0.62	b7 V	2.75	4530
48	4:21:43.25	+54:22:33.4	15.59			3.03:	1.29:	0.56		k1		
49	4:21:43.28	+54:41:23.1	14.69			3.75:	1.63	0.66	1.51	k1.7 III		
50	4:21:44.57	+54:27:13.0	14.45	3.88	2.83	1.82	0.88	0.29	0.78	a8 IV		
51	4:21:44.97	+55:03:19.9	13.83	3.75	2.92	2.08	1.01	0.36	0.94	f3 IV	2.27	630
52	4:21:46.77	+55:18:10.5	14.94	3.60	2.80	1.85	0.90	0.32	0.81	a8 V	1.84	1320
53	4:21:47.57	+54:53:27.8	12.94	2.96	2.36	1.66	0.76	0.28	0.71	f7 V	1.04	380
54	4:21:48.45	+55:15:24.4	14.31	2.58	1.95	1.31	0.70	0.26	0.60	b6 V	2.46	3720
55	4:21:48.55	+55:26:55.0	16.03		2.06	1.44	0.81	0.23:	0.72:	k-m		
56	4:21:48.97	+55:11:46.7	16.92			1.89	1.04	0.36	0.90	k-m		
57	4:21:49.48	+54:35:58.6	13.24	3.80	2.80	1.74	0.87	0.30	0.74	a3 IV	2.62	970
58	4:21:49.53	+55:25:10.1	15.97			2.09	0.92:	0.43	0.84	k0 V:	1.31	730
59	4:21:51.03	+55:16:14.8	14.31	3.55	2.73	1.82	0.88	0.32	0.78	a9 V	2.47	780
60	4:21:51.98	+54:56:29.1	16.43			2.42:	1.00	0.46	0.95	k1.7 V	1.32	550
61	4:21:52.02	+55:22:56.1	16.14			2.49:	1.06	0.44	1.10	k1 **	1.65	445
62	4:21:52.83	+55:25:53.5	15.31			2.51:	1.00	0.51	1.03	k3 V	1.24	311
63	4:21:53.55	+55:14:19.4	13.13	3.14	2.31	1.39	0.65	0.24	0.53	a **	1.49	1340
64	4:21:53.60	+55:15:55.1	13.07	3.42	2.56	1.59	0.76	0.27	0.64	a6 V	2.08	630
65	4:21:54.16	+55:13:01.2	10.09	4.43	3.79	2.61	1.15	0.44	1.08	g8		
66	4:21:54.33	+54:40:25.6	13.56	3.26	2.52	1.79	0.87	0.32	0.83	f4 V	1.95	730
67	4:21:54.50	+55:12:41.0	15.12	3.61	3.00	2.13	1.03	0.36:	0.91:	f9.5 V		
68	4:21:55.55	+54:48:27.7	12.77	2.79	2.16	1.48	0.68	0.26	0.63	f5 V	1.01	487
69	4:21:55.85	+54:53:04.5	13.25	3.88	3.26	2.26	0.97	0.39	0.94	g9.5 V		
70	4:21:55.89	+54:19:27.8	13.40	2.59	2.10	1.53	0.78	0.31		a1.5		
71	4:21:56.21	+55:12:25.3	11.94	3.48	2.64	1.72	0.83	0.30	0.77	a9 V	1.9	370
72	4:21:57.32	+54:57:50.0	13.08	4.79	3.40	2.30	1.19	0.42	1.12	a9 III		
73	4:21:57.74	+55:24:12.7	15.23			2.74:	1.06	0.58	1.09	k4 V	1.33	251
74	4:21:57.86	+55:26:58.3	15.20			2.76	1.19	0.63	1.24	m0:	0.3	100
75	4:21:58.47	+55:20:06.6	13.54	2.89	2.26	1.56	0.74	0.28	0.68	f5 V	1.33	640
76*	4:22:00.85	+54:30:43.4	9.39	1.98	1.54	0.97	0.51	0.20	0.48	b5 V	1.7	456
77	4:22:00.91	+54:47:26.3	13.98	2.82	2.18	1.53	0.71	0.27	0.64	f5 V	1.04	1230
78	4:22:01.39	+54:41:57.0	12.16	3.30	2.51	1.65	0.78	0.28	0.73	a **	1.59	453
79	4:22:01.54	+55:20:56.6	13.39	3.13	2.50	1.77	0.82	0.31	0.79	f8 V	1.31	414
80	4:22:02.55	+54:52:50.5	16.11			2.66:	1.07	0.53	1.07	k2.5	1.51	383
81	4:22:02.63	+55:19:45.7	13.96	3.13	2.62	1.82	0.82	0.30	0.77	g4 **	1.17	970
82	4:22:04.32	+55:23:40.5	16.58			1.48:	0.73	0.28	0.65	k-m		
83	4:22:05.18	+55:18:11.2	14.41	3.39	2.36	1.40	0.69	0.26	0.55	a1 III	2.14	2060
84	4:22:05.81	+54:42:10.8	15.78			3.11:	1.44	0.49	1.39	m4.5 III	3.13	2270

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
85	4:22:06.19	+54:22:21.3	13.57	3.41	2.79	1.99	0.89	0.34	0.83	g4 V	1.47	710
86	4:22:06.44	+54:26:55.3	12.38	4.36	3.80	2.76	0.95	0.64	1.09	k7 V:	0.12	71
87	4:22:07.69	+55:23:40.0	16.87			1.54:	0.72	0.30:	0.62	k-m		
88	4:22:08.23	+54:55:27.0	14.93	3.49	2.56	1.59	0.79	0.25	0.69	a5 IV	2.28	2460
89	4:22:08.54	+54:23:37.5	13.50	2.98	2.31	1.60	0.74	0.27	0.68	f4 IV	1.18	920
90	4:22:08.59	+54:32:21.3	16.23			2.58:	1.13	0.59	1.09	k7 **		
91	4:22:09.30	+55:07:02.3	11.77	3.09	2.44	1.81	1.03	0.36	1.01	b2.5		
92	4:22:09.48	+54:56:55.9	15.20		3.23	2.23	0.96	0.42	0.93	k0 V	1.43	431
93	4:22:10.48	+54:32:47.9	16.20			2.28:	0.98	0.42	0.95	k0 V	1.41	600
94	4:22:11.34	+55:16:07.1	16.29			2.39:	1.03	0.46	0.95	k1 V	1.68	580
95	4:22:11.83	+54:22:40.0	14.65	3.37	2.61	1.87	0.88:	0.34	0.83:	f4 V	1.68	730
96	4:22:13.20	+55:23:36.2	13.18	3.35	2.37	1.50	0.75	0.27	0.67	a1.5	2.42	1350
97	4:22:14.57	+55:19:20.9	14.17			3.97	1.63	0.72	1.50	k5.5	1.93	4540
98	4:22:15.27	+55:17:40.7	14.17	3.67	2.83	2.02	0.98	0.36	0.90	f3 IV	2.13	1020
99	4:22:15.30	+55:22:51.5	15.50			2.59:	1.14	0.55	1.11	k2.7		
100	4:22:15.62	+54:22:08.1	14.69	3.82	2.97	2.10	1.03	0.38	1.01	f5 **	2.33	1180
101	4:22:16.53	+54:19:05.6	13.95	3.64	2.95	2.10	0.97	0.38	0.91	g2.5 V	1.69	340
102	4:22:17.00	+55:25:39.0	15.19	3.28	2.18	1.50	0.79	0.31	0.65	a		
103	4:22:17.53	+55:20:12.1	14.68	3.27	2.32	1.41	0.70	0.23	0.58	b9.5 IV	2.16	2310
104	4:22:18.76	+55:13:50.0	11.02	4.01	2.68	1.68	0.91	0.32	0.82	a	2.65	4950
105	4:22:19.65	+54:47:11.9	16.38			3.17:	1.49	0.61	1.29	k0.5 V	3.45	920
106	4:22:19.93	+55:25:31.5	15.42			2.75:	1.16	0.57	1.26	k3.7 V	1.17	118
107	4:22:21.13	+55:10:49.0	13.72	3.78	3.11	2.20	0.99	0.38	0.95	g5 IV	1.71	640
108	4:22:21.30	+54:20:03.4	13.67	3.55	2.58	1.61	0.79	0.27	0.67	a6 IV	2.28	1370
109	4:22:21.39	+55:16:24.8	14.27	3.91	2.91	1.90	0.95	0.33	0.85	f0 IV	2.94	1340
110	4:22:21.50	+54:52:04.6	15.83			2.20	0.93	0.41	0.88	k0.7 V	1.23	570
111*	4:22:21.58	+54:44:41.4	10.36	2.34	1.95	1.33	0.56	0.23	0.57	g0 V	0.17	155
112	4:22:22.96	+54:48:27.7	14.23	3.12	2.48	1.81	0.82	0.31	0.76	f9 V	1.35	1090
113	4:22:23.43	+54:23:29.1	13.02	3.06	2.38	1.67	0.78	0.28	0.73	f5 V	1.29	680
114	4:22:23.85	+54:56:33.7	13.36	3.88	2.88	1.93	0.97	0.34	0.92	f0 IV	3.18	910
115	4:22:24.83	+54:48:07.5	11.72	2.86	2.29	1.59	0.73	0.28	0.69	f8 V	0.9	231
116	4:22:27.64	+54:23:19.2	14.81			3.24	1.47	0.57	1.37	k0.5 IV	3.02	550
117	4:22:27.89	+54:47:33.7	14.72			3.25:	1.44:	0.58	1.29	k1 IV	2.88	560
118	4:22:27.94	+55:21:42.9	13.47	3.27	2.43	1.50	0.69	0.25	0.59	a8 V	1.14	1290
119	4:22:29.50	+54:44:18.8	12.30	2.69	2.24	1.57	0.69	0.27	0.67	g1 V	0.66	295
120	4:22:32.23	+55:15:06.3	13.31			3.96	1.74	0.66	1.57	k1.7 III	3.56	690
121	4:22:32.60	+55:19:17.7	13.83	4.35	3.59	2.55	1.21	0.43	1.11	g4 IV	2.7	436
122	4:22:33.58	+54:49:09.0	16.55			2.60	1.05	0.55	0.99	k3.2 V	1.47	496
123	4:22:35.04	+55:25:23.9	14.55	3.52	2.54	1.67	0.81	0.29	0.69	f1 III	1.98	1820
124	4:22:35.14	+55:27:26.1	13.35	3.29	2.22	1.53	0.70	0.24	0.69	f3		
125	4:22:35.39	+54:18:44.7	11.99	3.26	2.26	1.35	0.68	0.24	0.60	b9.5 III	2.17	1010
126	4:22:35.87	+54:50:01.9	15.28	3.13	2.40	1.66	0.89	0.30	0.76	b6 IV	3.02	2190
127	4:22:36.50	+55:18:15.4	13.70	2.97	2.30	1.60	0.76	0.28	0.69	f4 IV	1.76	700
128	4:22:36.83	+54:34:25.9	13.97	3.88	3.20	2.30	1.05	0.41	1.02	g6 V	1.96	234
129	4:22:37.44	+54:53:29.8	13.89			3.61	1.62	0.57	1.46	m3 III	3.36	930
130	4:22:38.02	+55:19:23.5	14.91	3.24	2.62	1.86	0.84	0.32	0.76	g0 IV	1.3	1460
131	4:22:41.20	+55:17:28.1	15.40	2.78	2.15	1.43	0.76	0.29	0.65	b7 V	2.65	3550
132	4:22:41.31	+55:18:59.2	13.21	5.09	4.32	3.08	1.40	0.51	1.28	g8 III	2.85	820
133	4:22:42.81	+54:47:20.3	12.31	2.71	1.99	1.19	0.52	0.20	0.44	a9 V	0.8	760
134	4:22:44.16	+55:19:44.7	14.88	3.59	2.77	2.01	0.99	0.35	0.88	f4 V	2.19	1090
135	4:22:44.46	+54:58:36.3	13.63	4.65	3.45	2.40	1.22	0.43	1.10	f1 III	3.41	500
136	4:22:44.75	+54:24:35.1	15.31	2.54	1.88	1.31	0.67	0.24	0.58	b	2.02	3080

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
137	4:22:45.64	+55:31:05.5	15.71	2.54	1.41	1.23	0.66	0.25	0.56	b		
138	4:22:45.87	+54:21:20.1	15.84			3.31:	1.50	0.60	1.41	k0.5	3.14	830
139	4:22:46.82	+54:50:10.6	16.11			2.35:	0.98	0.46	0.93	k2 V	1.38	530
140	4:22:46.94	+54:31:44.9	14.09	3.72	2.74	1.81	0.86	0.30	0.80	f1 III	1.85	1240
141	4:22:47.39	+54:42:21.5	16.27			2.29:	0.94	0.43	0.90	k1.2 V	1.25	640
142	4:22:48.64	+54:19:50.8	14.49	3.55	2.75	1.97	0.94	0.36	0.88:	f4 IV	1.84	1350
143	4:22:49.21	+54:45:04.7	13.75	3.11	2.53	1.74	0.78	0.29	0.71	g0 IV	0.92	442
144	4:22:49.28	+55:16:27.0	13.09	3.41	2.50	1.53	0.75	0.26	0.64	a6 IV	2.11	1140
145	4:22:49.57	+54:52:00.1	14.34	3.79	2.85	1.98	0.97	0.34	0.87	f1 IV	2.38	1120
146	4:22:49.76	+54:43:30.5	14.71			4.08:	1.78	0.71	1.64	k9	2.43	4750
147	4:22:50.56	+55:30:05.6	12.40	2.86	1.84	1.49	0.68	0.26	0.68	a3		
148	4:22:50.95	+55:20:52.3	13.82	3.40	2.40	1.48	0.76	0.27	0.66	b9.5 IV	2.52	1870
149	4:22:52.26	+55:21:37.5	14.55	3.69	2.75	1.71	0.81	0.27	0.71	a6 **	1.61	1720
150	4:22:54.01	+55:17:42.1	13.48			4.09	2.01	0.67	1.89	m4.5 III	2.82	1670
151	4:22:54.38	+54:23:03.5	16.07			2.76:	1.20	0.55	1.23:	k2 **	2.16	317
152	4:22:55.08	+55:30:05.9	14.82	3.40	2.39	1.92	0.87	0.33	0.90	f6		
153	4:22:55.46	+54:30:21.1	15.20			3.40	1.50	0.56	1.42	k-m		
154	4:22:56.73	+54:22:33.8	14.83			3.32	1.45	0.54	1.37	m4 III		
155	4:22:57.20	+54:50:10.8	12.98	2.77	2.16	1.52	0.71	0.27	0.64	f6 V	1.11	510
156	4:22:57.42	+54:46:46.0	14.07	3.79	2.85	1.86	0.90	0.34	0.75	a7 IV	2.0	1150
157	4:22:57.97	+54:32:54.8	14.23			4.11:	1.75	0.73	1.63	m0 III	2.27	4090
158	4:22:58.07	+55:18:25.1	15.86			2.99	1.39	0.41:	1.25	k-m		
159	4:22:58.10	+54:51:23.7	14.29	3.21	2.56	1.83	0.82	0.29	0.81	f9 IV	1.27	1120
160	4:22:59.89	+55:22:49.7	12.96	2.87	2.22	1.44	0.66	0.26	0.61	f1 V	1.01	570
161	4:23:01.19	+55:24:02.3	15.07	3.43	2.82	2.03	0.99:	0.35:	0.93:	f9.5 V	2.12	720
162	4:23:03.48	+55:16:34.8	11.78	3.96	3.18	2.28	1.11	0.40	1.03	f9 IV		
163	4:23:04.27	+54:43:05.3	11.22	7.13	6.16	4.47	2.05	0.78	1.89	k1		
164	4:23:04.96	+55:28:08.7	13.33	3.04	2.33	1.71	0.75	0.29	0.74	f8 V		
165	4:23:05.20	+55:18:27.6	13.06	4.95	4.12	2.91	1.34	0.50	1.22	g7 III	2.71	282
166	4:23:05.69	+55:22:14.8	13.66	3.98	3.36	2.32	0.98	0.42	0.93	k0 V	1.42	185
167	4:23:06.19	+55:27:35.7	15.21	3.28	2.52	1.87	0.87	0.31	0.78	f8		
168	4:23:07.51	+54:45:26.0	16.68			2.54:	1.03	0.61	1.05	k8		
169	4:23:08.64	+55:23:38.2	13.35	3.16	2.41	1.61	0.78	0.28	0.70	f1 V	1.9	780
170	4:23:10.15	+54:45:26.8	14.62	3.89	2.91	1.88	0.90	0.34	0.78	a9 III	2.02	1470
171	4:23:11.57	+55:27:35.3	15.50			2.79	1.23	0.49	1.14	k0 IV	2.24	1070
172	4:23:12.31	+55:23:18.9	14.36	3.54	2.95	2.05	0.89	0.36	0.83	g5 IV	1.22	1060
173	4:23:12.85	+55:00:37.6	16.24			2.51:	1.27	0.39	1.32	k-m		
174	4:23:16.20	+54:46:46.5	14.26	3.18	2.54	1.78	0.81	0.30	0.72	f9 IV	1.23	1140
175	4:23:16.97	+54:46:31.0	15.96			2.88:	1.15:	0.71:	1.08:	k-m		
176	4:23:16.98	+54:27:25.0	12.21	3.26	2.33	1.37	0.66	0.23	0.58	a3 IV	1.82	930
177	4:23:18.94	+54:23:40.1	13.28	3.23	2.57	1.83	0.85	0.31	0.81	f8 IV	1.47	670
178	4:23:19.21	+54:46:42.3	14.75	3.27	2.53	1.85	1.00	0.35	0.87	b4 IV	3.58	1880
179	4:23:19.25	+55:15:46.0	14.91	3.80	3.05	2.19	1.06	0.39	0.97	f9 IV	2.33	950
180	4:23:19.72	+55:15:35.6	14.86	3.83	3.21	2.28	0.98	0.38	0.95	g8 IV	1.32	1230
181	4:23:20.97	+55:15:06.0	15.01	3.44	2.53	1.54	0.81	0.28	0.70	b9.5 IV	2.7	2530
182	4:23:22.76	+54:21:39.4	14.23	3.28	2.56	1.82	0.86	0.30	0.80	f5 V	1.63	1010
183	4:23:22.81	+54:52:45.9	14.13	3.63	2.92	2.03	0.93	0.34	0.87	g2 IV	1.62	850
184	4:23:22.89	+55:19:06.0	10.80	3.14	2.23	1.25	0.62	0.23	0.54	a0.5 IV	1.92	610
185	4:23:23.99	+54:21:09.4	13.44	3.55	2.52	1.62	0.83	0.28	0.72	a1 IV	2.73	1050
186	4:23:26.15	+55:18:32.8	15.95		2.20	1.50	0.81	0.31:	0.64	k-m	2.83	5070
187	4:23:26.19	+54:26:23.9	15.24	3.35	2.56	1.74	0.87	0.30	0.78	f1 **	2.62	2010
188	4:23:26.22	+54:24:48.7	13.74	4.05	3.20	2.20	1.05	0.38	1.00	f5 III	2.29	560

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
189	4:23:26.80	+55:00:31.3	14.16	3.68	2.89	2.05	0.99	0.34	0.95	f6 **	2.06	452
190	4:23:28.38	+54:46:36.4	13.14	2.94	2.36	1.67	0.77	0.29	0.73	f8 V	1.1	405
191	4:23:28.47	+54:29:07.1	14.37	3.58	2.78	1.98	0.94	0.34	0.90	f5 III	1.88	940
192	4:23:28.48	+55:18:09.5	14.45	3.60	3.00	2.12	0.92	0.37	0.88	g7 IV	1.2	324
193	4:23:28.80	+54:18:20.7	12.95			4.15	1.77	0.73	1.66	m0 III	2.36	2180
194	4:23:29.73	+54:44:52.5	15.87			2.28	0.91	0.46	0.91	k2.5 V	0.94	496
195	4:23:29.85	+54:40:23.1	14.06	3.94	3.37	2.29	0.93	0.43	0.94	k2 V	1.09	214
196	4:23:30.52	+54:18:47.1	14.69	3.11	2.21	1.46	0.99	0.52	0.44		1.09	214
197	4:23:30.68	+54:27:32.7	13.67	4.00	3.30	2.38	1.06	0.41	1.02	g7 IV	1.88	570
198	4:23:30.73	+54:52:43.1	14.05	3.79	3.06	2.18	1.06	0.37	1.00	f9 IV	2.24	341
199	4:23:30.90	+55:26:24.3	14.34	3.25	2.56	1.84	0.86	0.31	0.81	f7 IV	1.48	1080
200	4:23:31.40	+54:24:05.8	15.96			2.73:	1.18	0.47	1.11	k0 IV	2.04	1460
201	4:23:32.44	+55:15:30.0	14.44	3.59	2.79	1.98	0.95	0.35	0.90	f5 IV	1.9	550
202	4:23:32.53	+54:49:36.9	15.34			3.71	1.78	0.63	1.65	k3.7 III		
203	4:23:32.59	+55:24:36.7	15.71			3.07	1.13:	0.67	1.16	k7		
204	4:23:32.70	+54:22:51.9	16.33			2.41:	1.03	0.45	1.08	k1.2 V	1.64	550
205	4:23:33.00	+54:25:16.5	14.28	3.45	2.50	1.67	0.81	0.29	0.73	f0 IV	1.89	1580
206	4:23:34.06	+55:24:32.3	14.33	3.47	2.65	1.72	0.81	0.31	0.69	a8 V	1.41	1530
207	4:23:35.26	+55:16:40.3	13.32		5.06	3.55	1.55	0.62	1.44	k1.5 III	1.26	3920
208	4:23:35.40	+54:26:36.3	15.05	3.31	2.76	1.94	0.85	0.36	0.81	g6 V	1.04	550
209	4:23:35.72	+54:31:11.1	14.94			4.11	1.81	0.75	1.72	k-m	2.53	5040
210	4:23:37.04	+54:25:09.9	13.80	4.18	3.36	2.37	1.11	0.41	1.06	g3	2.37	520
211	4:23:37.41	+54:43:12.9	13.86	2.92	2.27	1.57	0.74	0.27	0.66	f5 IV	1.24	720
212	4:23:38.77	+54:20:45.0	14.53	3.29	2.47	1.61	0.75	0.29	0.65	f1 IV	1.33	1880
213	4:23:40.31	+55:25:13.1	13.47	2.86	2.27	1.60	0.72	0.26	0.67	f7 V	0.92	930
214	4:23:41.05	+54:49:27.9	14.72	3.49	2.77	2.00	0.93	0.33	0.88	f8 IV	1.7	1120
215	4:23:44.72	+54:43:06.7	13.12	2.84	2.29	1.63	0.75	0.28	0.70	f9 V	1.01	420
216	4:23:44.97	+55:25:48.4	15.93			2.25:	0.93	0.41	0.91	k1.7 V	1.16	540
217	4:23:45.05	+55:17:20.6	13.90	4.53	3.78	2.73	1.29	0.46	1.21	g4 IV	2.84	405
218	4:23:45.47	+54:42:37.9	12.47	2.75	2.04	1.28	0.59	0.22	0.52	f2 IV	1.36	660
219	4:23:45.82	+55:20:47.5	14.51	3.46	2.65	1.75	0.83	0.30	0.77	f1 IV	1.59	1600
220	4:23:46.99	+55:21:46.9	12.94	2.95	2.31	1.59	0.76	0.28	0.69	f4 V	1.4	471
221	4:23:47.22	+55:17:34.9	14.73	3.68	2.73	1.79	0.89	0.31	0.77	a9 IV	2.7	1850
222	4:23:48.26	+55:15:20.6	12.58	3.34	2.74	1.90	0.85	0.32	0.82	g4 IV	1.17	204
223	4:23:48.43	+55:17:19.3	15.65	2.79	2.22	1.47	0.76	0.27	0.65	a0		
224	4:23:49.28	+54:43:43.5	14.97	3.28	2.71	1.91	0.81	0.32	0.76	g5 IV	0.87	1640
225	4:23:49.73	+55:11:57.3	14.39	3.83	2.80	1.82	0.91	0.31	0.83	a9 **	2.86	1570
226	4:23:49.92	+54:24:16.4	14.59	3.33	2.44	1.59	0.74	0.28	0.67	f2 III	1.35	1970
227	4:23:50.62	+54:26:52.1	13.45	2.88	2.05	1.23	0.62	0.22	0.50	b9 III	1.81	1940
228	4:23:52.81	+54:50:30.2	14.24	3.92	3.17	2.26	1.06	0.39	1.00	g2 V	2.15	700
229	4:23:53.06	+54:36:15.2	15.86			2.56:	1.07:	0.52	1.07	k2 V	1.63	361
230	4:23:53.40	+55:30:40.3	13.51	3.65	3.07	2.19	0.77	0.49	0.87	m2 **	0.0	52
231	4:23:53.50	+55:28:13.9	15.02	3.57	2.90	2.05	0.92	0.35:	0.90	g3 V	1.59	1310
232	4:23:54.05	+54:20:12.9	14.60			4.11:	1.73	0.70	1.63	k8 III	2.2	5020
233	4:23:54.09	+55:12:35.2	16.23			2.78	1.17	0.62	1.13	k5	2.0	344
234	4:23:54.11	+55:25:31.2	13.35	3.43	2.84	1.99	0.87	0.35	0.84	g7 **	1.11	241
235	4:23:54.28	+54:21:53.4	12.69	3.07	2.28	1.43	0.65	0.24	0.57	f0 IV	0.93	970
236	4:23:56.23	+54:29:50.5	13.30	3.32	2.64	1.85	0.86	0.32	0.81	f8 IV	1.5	660
237	4:23:56.92	+54:21:43.3	11.95	2.97	2.10	1.21	0.58	0.22	0.49	a2 IV	1.61	1020
238	4:23:59.50	+54:30:31.7	13.73	3.32	2.73	1.93	0.86	0.33	0.84	g5 V	1.2	320
239	4:23:59.77	+54:32:15.1	13.84	3.19	2.54	1.84	0.85	0.31	0.82	f7 V	1.47	860
240	4:24:00.07	+54:27:08.1	13.93	3.23	2.42	1.58	0.73	0.26	0.64	f2 IV	1.25	1470

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
241	4:24:00.20	+54:28:13.5	14.79			2.91	1.28	0.49	1.20	k0 IV	2.25	770
242	4:24:01.34	+54:31:38.6	16.12			2.69:	1.06	0.52	1.13	k3 **	1.4	394
243	4:24:02.92	+54:23:49.3	13.03	2.42	1.85	1.31	0.70	0.25	0.75	b3	2.46	2070
244	4:24:02.93	+55:12:48.4	12.77	3.40	2.64	1.82	0.86	0.31	0.81	f6 IV	1.51	710
245	4:24:03.01	+54:26:56.5	15.14	3.24	2.49	1.78	0.82	0.29	0.79	f5	1.35	1650
246	4:24:03.88	+55:18:54.2	14.80	3.68	2.98	2.09	1.02	0.37	0.91	f8 IV	2.12	540
247	4:24:04.81	+54:23:39.5	15.15	3.55	2.59	1.70	0.82	0.29	0.71:	f1 III	2.05	2320
248	4:24:04.92	+54:26:49.8	13.16	5.29	4.51	3.20	1.35	0.54	1.25	k1 III	2.17	1170
249	4:24:06.89	+54:47:20.4	14.57	3.35	2.69	1.89	0.86	0.34	0.81	g0 IV	1.39	600
250	4:24:07.22	+55:09:25.4	13.36	4.22	3.21	2.17	1.05	0.37	1.02	f1		
251	4:24:07.36	+55:12:04.2	13.07	4.35	3.20	2.23	1.11	0.40	1.08	f1 III		
252	4:24:07.52	+55:10:23.2	15.73			2.64:	1.14	0.49	1.13	k1.5 V	2.0	314
253	4:24:08.94	+55:14:40.4	15.32			3.53:	1.60	0.60	1.50	k3 III	3.55	540
254	4:24:09.38	+55:17:10.2	11.40	2.75	2.01	1.13	0.53	0.20	0.46	a5 IV	1.37	590
255	4:24:09.91	+55:15:57.6	14.05	3.26	2.65	1.87	0.86	0.30	0.85	f9.5 V	1.43	477
256	4:24:11.41	+54:28:35.3	14.33	3.81	2.86	1.98	0.92	0.30	0.92	f5		
257	4:24:13.25	+54:29:59.4	14.13			3.21	1.39	0.55	1.32	k1 IV	2.59	487
258	4:24:13.85	+54:31:18.9	14.12	3.44	2.68	1.89	0.90	0.32	0.84	f4 IV	1.7	910
259	4:24:15.47	+54:30:06.0	15.02			2.66	1.03	0.59	1.13	m1	0.21	126
260	4:24:16.64	+55:27:35.2	14.54	3.66	2.68	1.66	0.81	0.28	0.69	a6 IV	2.15	1900
261	4:24:18.16	+54:26:04.1	14.11	3.93	2.86	1.82	0.89	0.28	0.78	a4	2.51	1320
262	4:24:18.74	+55:21:19.6	15.97			2.50:	1.05	0.48	1.01	k2 **	1.52	407
263	4:24:19.01	+54:29:46.4	14.18	3.52	2.80	2.00	0.91	0.34	0.89	g0 IV	1.51	425
264	4:24:19.35	+55:12:50.9	14.87	3.62	2.63	1.65	0.81	0.27	0.72	a6 IV	2.37	2290
265	4:24:19.68	+55:25:40.3	16.12			2.54:	1.01:	0.54	1.00	k3.2 V	1.3	441
266	4:24:19.76	+55:15:19.3	13.94	3.19	2.50	1.76	0.82	0.30	0.75	f7 IV	1.36	560
267	4:24:24.95	+54:20:16.9	14.62	3.51	2.54	1.67	0.84	0.28	0.70	a3	2.71	2100
268	4:24:26.40	+54:18:51.4	16.02			2.87	1.33	0.43	1.21	m4.5 III		
269	4:24:29.47	+54:47:59.2	14.56			4.44	1.99	0.78	1.86	m2 III	3.27	3000
270	4:24:31.73	+55:16:11.1	12.70	4.90	4.20	2.91	1.18	0.51	1.11	k1 IV	1.41	1360
271	4:24:32.31	+54:55:37.3	16.13			2.78:	1.23	0.62	1.26	k8		
272	4:24:34.24	+55:10:57.9	13.90	3.80	3.19	2.26	0.98	0.43	0.95	k0 V	1.43	216
273	4:24:36.47	+54:21:56.1	17.13			1.95:	1.05	0.34	0.88	k-m		
274	4:24:37.59	+55:12:24.1	16.16			2.52:	1.03:	0.49	1.06	k2.7 V	1.41	438
275	4:24:38.66	+55:12:40.1	15.86		2.13	1.38	0.70	0.25	0.64	k-m		
276	4:24:39.21	+54:21:22.8	15.37	2.67	1.99	1.43	0.75	0.29	0.63	b	2.54	4030
277	4:24:40.16	+55:31:18.6	14.88	3.57	2.70	1.81	0.88	0.33	0.77	f0 V	2.6	1140
278	4:24:40.81	+54:24:34.9	13.91	3.76	3.06	2.14	0.97	0.37	0.91	g5.5 IV	1.74	720
279	4:24:41.72	+54:47:27.8	10.65	4.02	3.46	2.36	0.98	0.40	0.94	k0		
280	4:24:42.37	+55:17:49.5	13.59	4.54	3.76	2.69	1.25	0.45	1.17	g5.5 III	2.58	388
281	4:24:42.40	+54:53:55.7	13.81	4.07	3.63	2.52	0.87	0.57	0.96	k5.5 V	0.35	179
282	4:24:42.81	+54:39:34.2	11.76	2.98	2.54	1.69	0.66	0.30	0.68	g9.5 V	0.17	158
283	4:24:43.51	+54:27:48.6	14.79			3.71:	1.57	0.63	1.46	k1		
284	4:24:47.04	+55:30:54.7	11.59	2.62	2.06	1.40	0.65	0.24	0.64	f5 V	0.95	311
285	4:24:48.01	+54:32:32.9	10.76	3.07	2.26	1.32	0.61	0.23	0.53	a6 V	1.28	349
286	4:24:48.21	+55:08:59.2	13.43	4.32	3.61	2.54	1.13	0.43	1.10	g9 IV	1.94	477
287	4:24:48.71	+54:29:56.0	16.19			2.98:	1.32	0.50	1.21	k0 III	2.44	3940
288	4:24:49.58	+54:29:31.4	14.53	3.75	2.88	2.02	0.95	0.33	0.94	f5 III	1.87	980
289	4:24:50.11	+54:22:18.5	12.51	5.45	4.67	3.30	1.41	0.55	1.32	k1.2 III	2.41	780
290	4:24:50.34	+55:19:24.5	10.72	2.53	1.88	1.15	0.57	0.24	0.56	b8		
291	4:24:52.40	+54:26:42.4	14.90			3.39:	1.48	0.56	1.37	k-m	2.68	2060
292	4:24:52.50	+55:29:09.3	11.66	6.72	5.70	4.09	1.74	0.73	1.62	k3.7 III	3.29	385

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
293	4:24:53.41	+55:09:20.3	10.52	3.36	2.51	1.52	0.69	0.26	0.64	a6	0.81	261
294	4:24:53.48	+54:25:09.9	14.04			3.55	1.54	0.61	1.38	k1.7 III	2.87	1300
295	4:24:54.78	+55:23:44.1	13.38	3.77	3.20	2.19	0.96	0.38	0.95	g8.5 V		
296	4:24:56.13	+54:32:50.9	13.40	3.55	2.58	1.62	0.80	0.29	0.67	a5 IV	2.34	1180
297	4:24:57.68	+54:25:34.8	16.36			1.76	0.96	0.29	0.84	k-m		
298	4:24:57.71	+55:18:07.9	13.88	3.68	2.80	1.88	0.94	0.30	0.86	f0 IV	2.83	710
299	4:24:57.90	+55:10:30.7	14.53			3.50	1.49	0.61	1.38	k1.7 III	2.62	1840
300	4:24:57.97	+55:24:21.7	13.76	3.32	2.62	1.85	0.89	0.32	0.82	f5 V	1.76	770
301	4:24:58.78	+54:25:02.3	13.62			3.53	1.53	0.58	1.43	k-m	1.18	4670
302	4:25:00.14	+54:38:36.8	14.96	3.31	2.77	1.93	0.84	0.31	0.77	g5 V	0.95	1570
303	4:25:00.94	+54:25:26.8	14.33	3.50	2.82	2.07	1.00	0.38	1.08	f9 **		
304	4:25:01.84	+54:29:35.5	14.45	3.72	2.77	1.95	0.95	0.31	0.87	f2 III	2.19	1250
305	4:25:02.29	+54:20:50.1	14.11	3.82	2.78	1.89	0.91	0.34	0.81	f1 III		
306	4:25:02.96	+54:28:17.8	14.21	3.61	3.02	2.10	0.89	0.36	0.86	g8 IV	1.07	294
307	4:25:02.97	+54:47:04.1	12.84			3.83	1.72	0.67	1.59	k1.5 III	3.71	497
308	4:25:03.55	+55:21:53.3	14.55	3.77	2.97	2.09	1.01	0.35	0.99	f5	2.14	1200
309	4:25:03.56	+54:31:22.2	15.12	2.75	1.97	1.27	0.65	0.23	0.53	b	1.94	3950
310	4:25:04.19	+54:23:43.1	14.54	3.79	2.71	1.82	0.91	0.31	0.81	a6	2.79	1620
311	4:25:04.21	+55:10:47.6	14.25	3.86	2.91	1.86	0.87	0.31	0.77	a6		
312	4:25:04.63	+54:48:26.2	13.99	2.82	2.21	1.55	0.74	0.27	0.69	f5 V:	1.76	1110
313	4:25:04.99	+55:31:26.7	11.86	2.95	2.34	1.60	0.74	0.27	0.72	f6 IV	1.08	264
314	4:25:06.74	+54:26:52.4	15.13			3.14	1.38	0.52	1.30	k0 III	2.6	770
315	4:25:06.76	+54:37:32.0	15.28			2.38	0.92	0.49	0.93	k3 V	0.87	351
316	4:25:09.35	+54:42:27.4	15.56			3.83:	1.70	0.61	1.54	k-m	3.52	1950
317	4:25:10.48	+55:22:16.9	10.03	2.26	1.84	1.24	0.52	0.22	0.52	g0 V	0.06	157
318	4:25:10.61	+54:42:11.4	14.07	4.07	2.87	1.84	0.98	0.30	0.82	a0 III		
319	4:25:11.73	+54:48:33.4	13.27	4.65	3.90	2.77	1.29	0.46	1.19	g4 III	2.67	315
320	4:25:12.57	+54:28:35.8	15.30			2.84	1.07	0.67	1.14	m1 V:	0.22	143
321	4:25:13.36	+54:33:50.0	15.47	3.00	2.26	1.43	0.70	0.25	0.66	a5	2.08	2740
322	4:25:13.41	+54:29:11.2	12.38	3.09	2.27	1.36	0.64	0.22	0.54	a7 IV	1.57	980
323	4:25:14.10	+54:30:36.0	15.73			3.36	1.46	0.54	1.37	k-m	2.63	3090
324	4:25:14.42	+55:30:34.3	15.27			2.41:	1.04:	0.50:	1.00:	k2.5		
325	4:25:14.47	+55:07:07.9	12.34	3.44	2.54	1.64	0.83	0.29	0.77	a2	2.78	660
326	4:25:20.33	+54:30:50.7	15.14	3.34	2.60	1.92	0.92	0.31:	0.87	f5 V	1.75	1890
327	4:25:21.39	+54:48:54.3	14.01	3.87	3.35	2.32	0.94	0.47	0.92	k2 V	1.09	201
328	4:25:22.71	+54:38:23.4	10.44	2.93	2.54	1.70	0.66	0.33	0.68	k0.7 V	0.04	76
329	4:25:22.83	+55:18:01.8	14.80	3.58	2.82	2.01	0.93	0.34	0.86	f7	1.64	1180
330	4:25:23.50	+54:45:16.3	13.89	3.06	2.45	1.76	0.79	0.31	0.75	f9.5 V	1.09	500
331	4:25:24.48	+54:26:03.9	13.58	4.23	3.60	2.48	0.97	0.47	0.97	k2.7	1.12	149
332	4:25:25.06	+54:44:56.8	13.73	4.74	3.42	2.24	1.17	0.39	1.01	a6		
333	4:25:25.62	+54:31:53.5	14.55			3.60	1.55	0.58	1.42	k-m	2.88	1650
334	4:25:26.08	+55:14:55.4	14.69	3.57	2.81	2.01	0.96	0.36	0.88	f7 IV	1.94	1050
335	4:25:26.68	+55:24:52.0	14.35	3.95	3.19	2.31	1.12	0.39	1.03	f8 IV	2.55	650
336	4:25:27.45	+55:30:07.7	15.51	3.03	2.28	1.46	0.80	0.27	0.63:	b7 **	2.9	3810
337	4:25:29.63	+54:24:31.1	13.49	4.55	3.63	2.59:	1.23:	0.43	1.15	g2 **	2.61	950
338	4:25:29.79	+54:46:47.4	13.09	2.76	2.18	1.54	0.70	0.26	0.68	f6 V	0.93	500
339	4:25:30.07	+54:33:34.0	14.33	3.34	2.76	1.95	0.88	0.34	0.81	g5 V	1.27	410
340	4:25:32.71	+55:24:28.6	13.22	3.63	2.70	1.67	0.80	0.28	0.69	a6 **	1.97	990
341*	4:25:33.47	+54:49:07.3	9.39	2.62	1.83	0.95	0.44	0.18	0.36	a1 V	1.15	387
342	4:25:36.37	+54:57:52.4	13.23	3.79	2.82	1.75	0.84	0.28	0.71	a7 III	1.85	860
343	4:25:36.65	+54:46:04.1	16.34			2.50:	1.01	0.58	1.02	k9 V:	1.12	460
344	4:25:36.79	+54:23:52.2	13.10	3.17	2.64	1.85	0.79	0.32	0.78	g6 V	0.8	247

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
345	4:25:37.27	+54:24:37.0	15.41			3.47:	1.45	0.64	1.39	k1		
346	4:25:38.70	+54:31:36.5	11.94	4.29	3.30	2.37	1.16	0.42	1.11	f6 III		
347	4:25:38.71	+54:40:32.0	14.19	3.42	2.87	2.00	0.85	0.35	0.80	g8.5 V	1.0	1070
348	4:25:40.13	+55:27:58.9	13.15	5.23	4.47	3.14	1.40	0.53	1.27	g9.5 III	2.68	890
349	4:25:40.36	+55:27:01.8	15.18			2.29	0.96	0.42	0.93	k0.7 V	1.34	371
350	4:25:40.93	+55:24:34.4	15.45			3.50	1.56	0.60	1.41	k0.7 III	3.12	2120
351	4:25:41.47	+54:34:46.8	13.82	3.26	2.61	1.82	0.83	0.31	0.78	f9.5 IV	1.24	454
352	4:25:42.84	+55:25:11.5	14.76	3.39	2.68	1.93	0.89	0.34	0.81	f9 IV	1.53	1230
353	4:25:44.31	+54:30:17.8	15.26	3.31	2.40	1.43	0.73	0.25	0.55	a0 V	2.29	2840
354	4:25:44.42	+54:23:06.4	15.39			3.58:	1.62	0.62	1.51	k1 IV	3.52	570
355	4:25:45.25	+54:32:53.0	16.53			2.63:	1.34:	0.52:	1.16:	k-m		
356	4:25:48.01	+55:25:16.5	16.91			2.32	1.06:	0.49:		k0		
357	4:25:48.21	+55:17:25.0	17.28			1.95:	1.20:	0.38	0.91:	k-m		
358	4:25:48.46	+54:28:11.3	14.90			2.75	1.27:	0.55:	1.17	k1 **	2.71	207
359	4:25:48.46	+54:27:36.2	14.92	3.34	2.71	1.90	0.89	0.34	0.82	g0 V	1.52	680
360	4:25:48.99	+55:21:34.8	14.71	3.58	2.73	1.82	0.90	0.32	0.80	a9 V	2.6	960
361	4:25:49.16	+54:34:49.0	14.32			3.34:	1.46	0.55	1.38	k7 **	2.65	1580
362	4:25:50.09	+54:44:45.4	14.93			4.28:	1.86	0.77	1.68	k4 III	2.73	4560
363	4:25:51.00	+54:20:09.8	13.69	3.55	2.76	1.96	0.96	0.32	0.89	f3 V	2.07	670
364	4:25:51.68	+55:27:03.5	15.16	3.34	2.81	2.02	0.88	0.34	0.85	g6 V	1.16	1570
365	4:25:51.97	+54:36:22.1	15.29	3.10	2.27	1.58	0.84	0.32	0.74	b7 IV	2.87	3590
366	4:25:51.97	+55:11:21.9	16.55			2.44	1.10	0.37	1.13	k-m		
367	4:25:52.01	+55:18:16.8	15.82			3.27:	1.39	0.56	1.28	k1.7 III	2.28	3820
368	4:25:52.24	+54:19:19.4	14.68	3.39	2.66	1.92	0.94	0.33	0.84	f5 V	1.99	1090
369	4:25:52.67	+54:43:26.9	16.52			2.62:	1.03	0.59	1.08	m0	1.19	586
370	4:25:54.12	+54:55:00.8	13.85	4.17	3.35	2.40	1.19	0.41	1.20	f8	2.81	255
371	4:25:54.60	+55:14:06.7	14.61	3.83	2.90	2.12	1.05	0.33	0.99	f4 IV:	2.7	1110
372	4:25:55.33	+54:45:55.0	13.58	2.87	2.28	1.58	0.69	0.24	0.67	f9 IV	0.69	1050
373	4:25:55.86	+54:26:57.3	17.27			1.48:	0.68	0.27	0.64:	k-m		
374	4:25:55.96	+54:22:38.7	13.41	2.78	2.17	1.53	0.72	0.26	0.67	f5 V	1.25	630
375	4:25:56.35	+55:24:06.5	13.26	4.51	3.71	2.65	1.25	0.46	1.17	g3 IV	2.68	325
376	4:25:56.88	+54:25:38.5	14.30	3.48	2.53	1.59	0.75	0.27	0.62	a9 IV	1.55	1730
377	4:25:57.87	+54:42:11.7	15.64			2.37	0.98	0.47	0.89	k1.5 V	1.33	409
378	4:25:58.84	+54:26:56.8	14.83	3.43	2.66	1.90	0.90	0.32	0.86	f6 IV	1.7	1260
379	4:25:58.91	+55:31:13.7	14.29	3.27	2.55	1.83	0.86	0.29	0.79	f4 V	1.53	1060
380	4:25:59.57	+54:48:57.8	13.53	3.00	2.39	1.70	0.77	0.29	0.71	f9 V	1.11	880
381	4:26:00.65	+54:38:09.6	15.66			2.26	0.91	0.47	0.90	k2.7 V	0.95	458
382	4:26:00.80	+55:27:27.5	15.09	3.42	2.73	1.93	0.94	0.32	0.84	f5 V	1.88	1310
383	4:26:00.85	+55:09:27.9	13.15	3.45	2.73	1.94	0.90	0.32	0.88	f8 IV	1.68	570
384	4:26:00.90	+54:39:02.2	12.41	2.65	2.03	1.37	0.62	0.24	0.57	f3 V	0.66	710
385	4:26:04.45	+55:06:11.2	14.56			4.09:	1.83	0.70	1.70	k7	2.4	4100
386	4:26:05.63	+55:30:47.9	11.99	2.43	1.78	1.09	0.57	0.21	0.49	b7 IV	1.89	1450
387	4:26:06.25	+54:26:21.1	15.14	3.38	2.60	1.88:	0.98:	0.23:	0.79:	**		
388	4:26:06.70	+54:25:40.2	13.28	3.40	2.49	1.52	0.71	0.25	0.58	a7 IV	1.3	1140
389	4:26:06.70	+55:22:42.7	13.50			3.98	1.68	0.73	1.59	k8	2.02	3290
390	4:26:06.87	+54:28:17.0	14.66	1.41	1.08	0.77	0.33	0.14	0.28	a-f		
391	4:26:07.83	+54:20:17.2	12.84	3.59	2.62	1.66	0.81	0.27	0.71	a8 IV	2.16	860
392	4:26:08.25	+54:56:31.5	13.08	4.38	3.44	2.48	1.19	0.41	1.18	f6		
393	4:26:10.10	+55:17:03.0	14.16			4.17:	1.75	0.72	1.60	m0 III	2.3	3920
394	4:26:10.75	+54:43:52.3	13.99	2.86	2.29	1.62	0.73	0.29	0.68	f8 V	0.86	600
395	4:26:11.01	+54:45:25.9	13.74	2.78	2.20	1.54	0.70	0.27	0.63	f7 V	0.88	640
396	4:26:12.15	+54:53:49.9	10.15	3.14	2.70	1.82	0.74	0.34	0.75	k0 V		

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
397	4:26:12.18	+55:08:19.5	13.72	3.59	2.72	1.87	0.89	0.31	0.83	f1 IV	1.83	1000
398	4:26:13.10	+55:09:00.4	13.87	3.71	2.92	2.11	1.00	0.35	0.95	f8 IV	2.09	650
399	4:26:14.03	+55:13:47.8	16.52			2.69	1.09	0.50	1.04	k2		
400	4:26:14.10	+54:30:51.7	15.29			2.30	0.98	0.42	0.94	k0.5 V	1.41	377
401	4:26:15.76	+55:15:38.8	14.70	3.43	2.68	1.92	0.94	0.34	0.83	f5 V	1.99	1100
402	4:26:17.20	+54:43:52.3	16.12			2.45:	1.08	0.33	1.04	k-m		
403	4:26:17.85	+55:26:13.1	13.39	3.31	2.73	1.91	0.86	0.31	0.83	g5 V	1.2	292
404	4:26:18.29	+54:55:02.9	14.11	3.46	2.72	1.93	0.90	0.33	0.85	f9 IV	1.66	890
405	4:26:18.42	+54:36:28.3	16.32			2.51:	0.99	0.49:	0.96	k2.5	1.17	495
406	4:26:21.83	+54:55:28.1	11.48	3.56	2.85	2.02	0.94	0.34	0.93	f9.5 V		
407	4:26:21.83	+55:10:56.9	13.39	3.63	2.77	1.95	0.94	0.34	0.89	f4	2.04	770
408	4:26:22.05	+54:18:12.1	12.31	2.63	1.97	1.35	0.69	0.24	0.59	b5	2.16	780
409	4:26:22.34	+55:23:45.8	15.73			2.96:	1.12	0.69	1.21	k7 V		
410	4:26:23.24	+55:19:51.3	14.66	3.33	2.49	1.63	0.76	0.27	0.67	f1 IV	1.38	1950
411	4:26:23.24	+54:36:37.0	15.26	3.33	2.39	1.57	0.86	0.27:	0.72	b8.5		
412	4:26:23.94	+55:05:51.4	12.93	3.69	2.69	1.66	0.81	0.28	0.72	a5 III	2.36	940
413	4:26:24.02	+54:36:26.1	14.69	3.98	2.98	2.02	1.00	0.32	0.89	f0 IV	2.49	1260
414	4:26:24.08	+55:05:24.9	14.18	3.67	2.69	1.71	0.88	0.30	0.76	a0 IV	2.93	1340
415	4:26:24.36	+54:29:28.3	13.09	3.57	2.69	1.84	0.88	0.31	0.82	f4 III	1.87	750
416	4:26:24.40	+54:30:02.2	12.22	5.00	4.23	2.98	1.31	0.49	1.25	g9.5 III	2.38	224
417	4:26:24.89	+54:28:56.3	15.77			2.95:	1.22	0.53	1.18	k1		
418	4:26:24.93	+54:21:42.2	13.36	2.81	2.09	1.45	0.76	0.24	0.67	b6 IV	2.36	1000
419	4:26:25.73	+55:15:12.3	15.84			3.27	1.46	0.56	1.32	k0 III	2.93	2730
420*	4:26:26.04	+54:43:14.2	9.33	1.76	1.31	0.69	0.33	0.14	0.28	b7 V	0.89	487
421	4:26:28.11	+55:23:41.6	14.13	3.38	2.59	1.80	0.87	0.31	0.80	f3 IV	2.43	730
422	4:26:28.15	+54:29:21.0	15.60			2.83	1.25	0.50	1.18	k0 IV	2.34	1080
423	4:26:28.54	+54:21:23.5	16.42			2.68	1.17	0.55:	1.02:	k2.2 V:	2.2	440
424	4:26:28.57	+54:26:15.9	11.27	6.36	5.53	3.97	1.64	0.69	1.54	k3.7 III	1.97	1970
425	4:26:29.02	+55:21:15.1	14.35	3.03	2.45	1.74	0.82	0.30	0.76	f7 V	1.43	700
426	4:26:31.69	+54:22:36.6	14.94	3.25	2.57	1.87	0.86	0.29	0.78	f8 V	1.51	1400
427	4:26:32.09	+55:23:44.8	12.18	5.56	4.78	3.39	1.46	0.58	1.36	k1		
428	4:26:32.14	+55:08:06.4	13.47	4.54	3.87	2.70	1.18	0.48	1.13	g9.5	2.15	111
429	4:26:33.82	+55:02:24.9	15.83			2.91:	1.25	0.54	1.23	k1.5 V	2.34	245
430	4:26:34.57	+54:25:43.5	14.72	3.22	2.59	1.84	0.85	0.33	0.78	f9 **	1.36	670
431	4:26:34.63	+54:46:01.1	14.76	3.50	2.99	2.04	0.82	0.36	0.83	k0.7 V:	0.75	400
432	4:26:34.92	+54:46:57.0	14.27	2.99	2.42	1.70	0.78	0.27	0.72	f9 V:	1.08	640
433	4:26:35.04	+54:24:22.9	17.19			1.86:	1.03:	0.34:	0.88	k-m		
434	4:26:35.39	+55:18:39.1	13.37	3.34	2.58	1.77	0.86	0.29	0.81	f3 V	1.73	700
435	4:26:35.97	+55:12:21.7	13.78			3.79	1.83	0.61	1.75	m4.5 III	2.1	2670
436	4:26:36.17	+54:23:43.8	12.33	2.74	2.13	1.48	0.69	0.26	0.61	f6 V	0.94	600
437	4:26:36.39	+55:10:39.3	13.63	3.33	2.65	1.86	0.85	0.31	0.81	f9 IV	1.46	780
438	4:26:36.87	+54:34:33.2	14.59			3.43	1.50	0.57	1.37	k0 III	2.79	1700
439	4:26:36.88	+55:30:05.6	16.94			2.36:	1.02	0.47	1.01	k2 **		
440	4:26:36.90	+54:28:04.8	14.06		4.21	3.00	1.28	0.50	1.17	k0 III	2.01	1870
441	4:26:37.46	+54:39:12.1	15.49		3.00	2.20	0.89	0.44	0.88	k0.5	0.98	450
442	4:26:38.11	+54:28:50.1	14.83	3.43	2.69	1.94	0.95	0.34	0.83	f5 V	2.06	1130
443	4:26:38.58	+55:31:16.3	14.13			4.04	1.71	0.70	1.56	k5 III	3.17	1270
444	4:26:38.68	+54:49:51.9	14.59	3.45	2.67	1.95	0.89	0.34	0.85	f9 IV	1.43	530
445	4:26:38.82	+54:49:23.5	14.07	3.30	2.62	1.86	0.87	0.31	0.80	f8 IV	1.53	930
446	4:26:39.07	+55:30:52.5	15.07	3.30	2.45	1.47	0.71	0.22	0.54	a5 IV	1.86	1910
447	4:26:39.18	+55:26:41.5	14.70	3.47	2.63	1.82	0.88	0.30	0.80:	f2 **	1.86	1590
448	4:26:39.27	+55:02:05.3	14.84			3.90:	1.69	0.67	1.61	m0 III		

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
449	4:26:39.51	+54:24:43.2	13.70	3.53	2.55	1.60	0.75	0.27	0.63	a7 IV		
450	4:26:40.23	+55:22:01.5	16.46			2.69	1.18	0.54	1.26	k2.5		
451	4:26:40.31	+54:42:16.6	13.30		5.01:	3.54	1.52	0.60	1.40	k2 III	2.8	960
452	4:26:40.83	+54:47:07.0	13.92	3.49	2.89	1.98	0.85	0.34	0.81	g6 IV	1.04	940
453	4:26:41.63	+54:35:22.5	14.51	3.70	2.64	1.62	0.79	0.28	0.66	a3 IV	2.28	2020
454	4:26:41.81	+55:06:34.7	15.29			2.67	1.10	0.50	1.09	k2	1.71	254
455	4:26:42.37	+54:25:57.4	14.47			3.17	1.33	0.57	1.21	k1	2.03	2310
456	4:26:42.48	+55:20:58.8	13.48	4.92	4.14	2.92	1.31	0.49	1.22	g8.5 IV	2.37	400
457	4:26:42.96	+55:22:10.7	12.03	3.10	2.47	1.72	0.81	0.30	0.78	f7 V	1.36	251
458	4:26:44.32	+55:15:36.0	16.14			2.56:	1.05	0.54	1.06	k3 V	1.51	422
459	4:26:44.47	+54:33:09.3	10.99	2.82	2.11	1.33	0.59	0.23	0.53	f1 IV	0.57	510
460	4:26:45.34	+55:21:27.2	15.02	3.49	2.82	2.05	0.90	0.35	0.89	g5 V	1.23	492
461	4:26:45.69	+55:22:31.9	15.67	2.80	2.13	1.38	0.70	0.26	0.59	a2	2.11	3260
462	4:26:45.73	+54:31:06.0	14.23	3.44	2.58	1.75	0.82	0.30	0.72	f4 III	1.55	1440
463	4:26:46.43	+54:23:36.7	12.00	3.03	2.43	1.70	0.79	0.29	0.74	f7 IV	1.16	233
464	4:26:46.81	+55:03:29.4	11.85	3.83	2.88	1.79	0.85	0.29	0.79	a6 III	1.65	459
465	4:26:46.91	+55:29:04.5	16.78			2.56	1.07	0.45	1.03	k0.7 IV	1.59	2610
466	4:26:47.27	+55:07:51.0	15.94			2.62:	1.15	0.53	1.12	k2	2.08	357
467	4:26:47.29	+54:36:60.0	13.78	2.66	2.10	1.50	0.69	0.26	0.64	f7 V	0.9	1150
468	4:26:47.33	+55:16:42.1	14.83	3.31	2.59	1.87	0.90	0.32	0.82	f5 V	1.78	1250
469	4:26:50.81	+55:15:56.7	12.48		5.57	4.00	1.73	0.69	1.61	k9	3.47	500
470	4:26:50.88	+54:45:53.5	14.22	3.26	2.71	1.87	0.79	0.33	0.77	g7 IV	0.8	414
471	4:26:51.09	+55:05:19.8	16.53			2.30:	1.05	0.32	0.95:	k-m		
472	4:26:52.05	+55:11:54.8	14.95	3.65	2.86	2.09	1.05	0.34:	0.97	f0 V:	2.95	720
473	4:26:52.40	+54:25:39.8	14.58	3.36	2.63	1.89	0.87	0.32	0.81	f8 **	1.54	1170
474	4:26:52.50	+55:22:09.7	13.24	3.42	2.81	1.97	0.90	0.34	0.86	g2.5 V	1.42	278
475	4:26:52.51	+54:49:30.9	14.85	3.35	2.70	1.96	0.88	0.32	0.83	g3 V	1.39	1330
476	4:26:52.68	+54:59:26.1	14.40		3.79	2.79	1.01	0.66	1.11	k9	0.37	161
477	4:26:52.98	+54:28:54.7	13.86		4.54:	3.28	1.41	0.55	1.27	k0.7 III	2.42	1440
478	4:26:53.32	+55:11:14.0	16.40			2.90:	1.11	0.63	1.13	k4.5	1.47	377
479	4:26:53.61	+54:31:32.9	14.34			3.16	1.36	0.56	1.28	k1 IV	2.47	570
480	4:26:56.08	+54:25:57.6	14.02	3.35	2.58	1.81	0.86	0.31	0.79	f3 IV	1.63	1190
481	4:26:56.81	+54:29:14.5	13.06	2.90	2.01	1.28	0.65	0.25	0.57	b8.5	2.07	1850
482	4:26:56.82	+54:20:17.0	14.33	3.48	2.55	1.56	0.74	0.25	0.59	a7 IV	1.89	1940
483	4:26:57.39	+54:58:56.0	13.59	3.81	3.09	2.20	1.05	0.38	1.01	g0 IV	2.16	267
484	4:26:58.26	+55:28:39.8	12.15	3.29	2.87	1.95	0.71	0.38	0.76	k2.2 V	0.08	130
485	4:26:58.36	+54:39:45.6	16.11			2.45:	0.95	0.54	0.96	k3.7 V	1.01	484
486	4:26:59.62	+55:18:40.3	16.52			2.62:	1.17	0.50	1.09	k2 V	2.24	496
487	4:27:00.62	+54:54:27.2	10.84	5.97	5.16	3.67	1.63	0.59	1.53	m3.5 III:	'''''	'''
488	4:27:00.71	+55:05:15.1	13.32	2.98	2.30	1.56	0.73	0.25	0.68	f3 V	1.13	870
489	4:27:00.72	+54:26:26.8	15.52	3.21	2.23	1.46	0.76:	0.28	0.57:	b9		
490	4:27:01.39	+55:19:48.8	11.29	6.58	5.66	4.06	1.73	0.71	1.64	k4.5 III	2.31	1010
491	4:27:02.31	+54:30:24.5	14.03	3.29	2.67	1.91	0.86	0.32	0.83	g2.5 V	1.36	940
492	4:27:02.32	+55:17:37.9	15.70			2.98:	1.26:	0.52	1.24	k1 **		
493	4:27:02.44	+54:56:16.2	14.86		3.71:	2.81	1.17	0.60	1.23	k3		
494	4:27:02.97	+55:05:30.3	15.27			3.67:	1.59	0.64	1.46	k1.7	3.02	2160
495	4:27:04.53	+54:37:02.9	16.11			2.91:	1.24	0.49	1.25	k0.5 IV	2.06	1550
496	4:27:04.83	+54:57:33.7	13.14	3.90	2.86	1.90	0.98	0.33	0.93	a3	3.29	810
497	4:27:04.89	+54:42:13.9	12.56	2.64	2.15	1.51	0.68	0.27	0.64	f9.5 V	0.7	373
498	4:27:05.88	+54:36:08.9	12.75	2.67	2.06	1.42	0.64	0.24	0.60	f4 V	0.77	790
499	4:27:07.01	+54:27:12.6	14.66	3.39	2.59	1.85	0.90	0.31	0.83	f4 IV	2.37	1090
500	4:27:07.29	+55:05:40.9	15.20	3.29	2.62	1.89	0.91	0.31	0.84	f6 V	1.76	1460

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
501	4:27:08.11	+54:28:00.1	15.05		3.13	2.18	0.92	0.39	0.88	k0.7 V	1.22	403
502	4:27:08.31	+55:14:02.3	13.42	3.37	2.65	1.88	0.88	0.32	0.86	f7 IV	1.63	680
503	4:27:10.02	+54:55:13.4	12.88	3.69	2.92	2.07	1.00	0.34	1.00	f6 IV	2.15	258
504	4:27:10.03	+54:22:27.5	16.18			2.70:	1.14	0.48	1.07	k0.7 IV	1.66	1930
505	4:27:10.20	+55:05:14.9	12.98		4.74	3.38	1.48	0.56	1.37	k1.2 III	2.69	850
506	4:27:11.08	+54:45:29.4	12.38	2.68	1.99	1.24	0.58	0.21	0.52	f1 IV	1.43	930
507	4:27:11.49	+54:38:33.3	12.94	2.68	2.11	1.49	0.67	0.27	0.62	f7 V	0.8	496
508	4:27:12.59	+54:36:55.0	14.74	3.11	2.43	1.74	0.81	0.31	0.73	f6 V	1.34	1420
509	4:27:13.25	+54:27:43.4	14.50			3.53	1.53	0.59	1.39	k1.5 III	2.84	1630
510	4:27:13.27	+54:32:53.6	14.32	3.73	2.77	1.79	0.87	0.30	0.78	f0 IV	1.94	1370
511	4:27:13.33	+54:23:30.7	11.82	3.08	2.41	1.68	0.78	0.28	0.74	f5 IV	1.31	388
512	4:27:13.52	+54:20:39.5	13.83	3.22	2.59	1.81	0.83	0.31	0.75	f9 IV	1.34	890
513	4:27:13.74	+55:16:01.1	13.38			4.26	1.83	0.73	1.70	m0 III	3.67	710
514	4:27:14.71	+55:05:45.6	16.00			2.47	1.09:	0.36	1.06	k-m	1.68	4900
515	4:27:15.14	+54:23:03.6	13.90	3.23	2.56	1.85	0.85	0.30	0.80	f7 V	1.47	890
516	4:27:15.62	+54:24:18.5	14.38	3.05	2.23	1.53	0.79	0.28	0.74	b8.5	2.62	2300
517	4:27:16.07	+55:12:51.6	16.09			3.12:	1.22	0.69	1.22	k6 V	1.84	257
518	4:27:16.93	+54:33:37.5	13.59	4.88	4.05	2.86	1.34	0.47	1.23	a7 III	2.86	336
519	4:27:17.18	+55:04:09.0	13.85	3.50	2.76	2.07	0.93	0.35	0.88	g0	1.62	750
520	4:27:17.26	+54:20:36.5	15.52	2.63	1.93	1.34	0.68	0.24	0.57	b	2.02	3020
521	4:27:17.84	+55:11:49.0	14.44	3.57	2.81	1.99	0.96	0.34	0.91	f5 V	2.04	920
522	4:27:19.04	+54:42:33.8	14.67	3.61	2.66	1.66	0.79	0.27	0.65	a7 IV	1.62	1860
523	4:27:19.84	+54:31:01.8	14.20	3.86	3.11	2.23	1.03	0.38	0.96	g3 IV	2.05	720
524	4:27:21.79	+54:19:06.0	12.52	3.36	2.55	1.73	0.81	0.28	0.73	f0 IV	1.31	520
525	4:27:25.01	+54:27:31.2	16.98			1.99:	1.13	0.41	0.95	k-m		
526	4:27:25.22	+54:57:27.4	14.20			3.59	1.53	0.61	1.41	k3 III	2.8	1460
527	4:27:25.52	+54:33:01.3	14.28	3.42	2.67	1.87	0.93	0.33	0.83	f3 V:	2.53	890
528	4:27:26.38	+54:37:56.6	14.14	3.38	2.47	1.49	0.73	0.27	0.58	a4 IV	2.26	1650
529	4:27:27.91	+54:40:57.6	13.53	2.95	2.39	1.67	0.73	0.29	0.69	g0 V	0.81	451
530	4:27:29.93	+54:37:13.4	14.54	3.48	2.65	1.82	0.92	0.32	0.82	f2 IV	2.82	1330
531	4:27:30.57	+54:30:33.5	11.70	2.65	1.93	1.20	0.60	0.21	0.51	b8.5 IV	1.73	670
532	4:27:31.18	+54:20:48.7	15.85			2.49:	1.01	0.47	1.01:	k2	1.32	395
533	4:27:31.26	+54:38:00.8	13.15	4.02	2.88	1.83	0.95	0.34	0.82	a1 III	3.21	890
534	4:27:32.21	+54:44:26.9	14.43	3.07	2.52	1.80	0.79	0.32	0.76	g4 V	0.92	540
535	4:27:32.60	+54:40:31.0	14.61	3.80	2.85	1.86	0.93	0.35	0.82	f0 IV	2.65	1180
536	4:27:32.66	+54:56:38.1	16.74			2.09:	1.02	0.42	0.90	f		
537	4:27:32.75	+54:44:13.6	15.37		3.19	2.26	0.91:	0.42:	0.88	k0.5 IV	0.95	402
538	4:27:32.87	+55:06:10.2	15.28	3.33	2.73	1.95	0.98	0.33:	0.87	f5		
539	4:27:34.06	+54:30:07.8	14.96	3.65	2.85	2.09	0.99	0.35	0.91	f9 IV	2.04	1110
540	4:27:35.72	+54:20:52.1	15.67			3.63	1.49	0.59	1.38	k3.2 III	2.31	3790
541	4:27:36.84	+54:57:48.0	13.27	3.53	2.75	1.95	0.93	0.33	0.91	f4 V	1.8	780
542	4:27:36.84	+54:21:42.5	14.20	3.70	2.96	2.13	1.03	0.35	0.97	f8 IV	2.19	730
543	4:27:36.95	+55:21:52.5	14.24	3.85	2.96	2.02	0.98	0.34	0.94	f3 III	2.0	1120
544	4:27:37.87	+55:06:37.5	16.53			2.09	1.06	0.44	1.03	k-m		
545	4:27:39.88	+54:25:25.2	11.73	2.79	2.38	1.62	0.64	0.29	0.65	g8.5 V	0.13	166
546	4:27:40.97	+54:29:00.9	14.83	3.63	2.81	2.04	0.98	0.34	0.92	f5 IV	2.03	1080
547	4:27:41.67	+54:41:41.7	16.08			2.89:	1.11	0.68	1.05	k5.5 V	1.44	330
548	4:27:42.08	+55:23:43.9	12.83	4.71	3.94	2.79	1.27	0.46	1.20	g7 III	2.42	289
549	4:27:42.19	+54:40:56.1	13.60	3.26	2.62	1.86	0.87	0.32	0.80	f8 IV	1.45	399
550	4:27:42.49	+55:29:37.8	11.43	3.11	2.63	1.80	0.77	0.30	0.76	g7 V	0.74	125
551	4:27:44.67	+54:45:24.2	13.91	3.58	2.55	1.59	0.83	0.28	0.69	b9.5 IV	2.7	1590
552	4:27:45.47	+54:49:09.8	12.80	3.57	2.70	1.80	0.84	0.30	0.83	f3 III		

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
553	4:27:46.40	+55:02:10.5	15.60		1.82	2.48	1.17	0.37	1.11		2.29	2920
554	4:27:47.45	+55:28:14.2	15.60	2.92	2.14	1.51	0.79	0.31	0.68	b	2.71	4750
555	4:27:49.53	+54:42:22.0	15.02		3.14	2.15	0.88	0.41	0.84	k1.5 V	0.95	393
556	4:27:50.19	+55:23:41.7	14.67	3.63	3.00	2.13	0.97	0.38	0.91	g5 V	1.61	395
557	4:27:50.65	+55:04:48.0	16.45			2.69:	1.13	0.62	1.08	k6	1.84	417
558	4:27:52.14	+54:55:34.3	11.71	2.85	2.19	1.40	0.74	0.27	0.67	b7 **	2.59	670
559	4:27:52.38	+55:20:48.3	13.48	3.77	2.87	1.98	0.95	0.33	0.88	f0 IV	2.1	790
560	4:27:53.51	+54:26:21.5	14.95	3.53	2.90	2.06	0.95	0.34	0.88	g2 IV	1.68	1190
561	4:27:53.66	+55:03:35.3	16.39			1.93:	0.94	0.39	0.84	k-m		
562	4:27:53.99	+54:30:44.1	14.05	4.16	3.46	2.46	1.13	0.43	1.05	g5 IV	2.2	590
563	4:27:55.20	+55:21:26.9	12.68	3.57	3.04	2.13	0.92	0.36	0.90	g7 IV	1.27	152
564	4:27:56.54	+54:43:03.6	13.27	5.14	4.40	3.12	1.35	0.54	1.25	k0.5 III	2.51	340
565	4:27:56.94	+55:09:40.7	10.33	3.66	2.69	1.69	0.85	0.30	0.82	a6 IV	2.65	286
566*	4:27:57.62	+54:38:06.7	10.18	2.59	1.92	1.09	0.47	0.19	0.42	a8 V	0.61	248
567	4:27:58.27	+54:27:58.6	13.45	3.13	2.43	1.71	0.79	0.29	0.74	f6 IV	1.24	473
568	4:27:58.65	+54:38:44.1	14.52	3.47	2.60	1.73	0.86	0.28	0.72	f1 IV	2.59	1170
569	4:27:59.09	+54:41:58.4	14.18	3.75	2.63	1.64	0.85	0.30	0.69	a0.5 III		
570	4:27:59.22	+55:29:29.0	10.50	2.91	2.34	1.65	0.79	0.28	0.75	f4 V:	1.38	133
571	4:27:59.55	+54:35:54.5	13.23	3.33	2.46	1.50	0.71	0.25	0.60	a7 III	1.74	1250
572	4:27:59.67	+54:25:34.9	13.68	3.10	2.46	1.72	0.80	0.28	0.74	f7 IV	1.29	890
573	4:28:00.12	+55:06:11.0	14.71			3.37:	2.10	0.51	2.10	m:	1.29	890
574	4:28:00.23	+54:42:36.9	14.28	3.48	2.64	1.86	0.93	0.33	0.85	f4 IV:	2.67	1000
575	4:28:00.25	+54:20:32.3	14.97	3.40	2.73	1.93	0.92	0.32	0.85	f7 IV	1.7	710
576	4:28:01.86	+54:39:42.4	14.05	2.99	2.33	1.65	0.78	0.29	0.72	f5 V	1.34	1100
577	4:28:02.77	+54:42:34.7	13.79	3.30	2.47	1.66	0.83	0.30	0.73	f1 **	2.44	1130
578	4:28:03.11	+54:28:37.3	14.05	4.31	3.62	2.60	1.18	0.41	1.12	g5.5 III	2.2	560
579	4:28:03.46	+54:52:52.5	14.16	4.29	3.54	2.56	1.20	0.43	1.13	g4 IV	2.52	540
580*	4:28:03.89	+54:34:40.3	8.51	5.69	4.89	3.51	1.51	0.60	1.45	k-m III	1.66	323
581	4:28:04.41	+54:37:25.7	12.26	3.00	2.34	1.60	0.74	0.28	0.68	f5 V	1.12	520
582	4:28:04.80	+55:16:25.6	15.77			3.14	1.46	0.49	1.35	k-m	3.06	2410
583	4:28:05.39	+54:25:18.6	16.34			2.29:	0.96	0.50	0.90	k3		
584	4:28:06.66	+55:05:59.9	13.83	3.48	2.58	1.64	0.78	0.27	0.67	a9 IV	1.57	1290
585	4:28:06.83	+54:50:34.0	12.21	3.21	2.53	1.77	0.83	0.30	0.81	f7 IV	1.45	262
586	4:28:07.58	+55:00:32.1	13.80	3.08	2.46	1.76	0.80	0.29	0.78	f9 V	1.24	940
587	4:28:07.81	+54:33:05.3	15.43			3.35:	1.52	0.58	1.41	k0 IV	3.24	660
588	4:28:07.90	+55:05:41.1	14.91	3.53	2.55	1.59	0.77	0.24:	0.64	a6		
589	4:28:08.61	+54:23:18.6	14.05	3.30	2.50	1.73	0.83	0.29	0.70:	f2 IV	1.65	1300
590	4:28:08.97	+54:29:38.4	13.20	3.23	2.42	1.54	0.75	0.25	0.64	a9 IV:	2.06	740
591	4:28:09.39	+55:27:36.5	15.80			3.01:	1.38	0.45	1.24:	k-m **	2.74	2840
592	4:28:10.20	+54:20:01.4	12.32	5.02	4.25	3.05	1.38	0.49	1.31	g8 III:	2.65	206
593	4:28:10.25	+55:04:46.8	16.47			2.71	1.06	0.54	1.19	k4	1.36	456
594	4:28:10.71	+55:11:28.4	16.85			2.53:	1.16:	0.34:	1.12	g-m		
595	4:28:11.09	+54:20:40.6	14.23	3.96	3.35	2.34	1.03	0.40	1.00	g8.5 V	1.66	227
596	4:28:11.46	+54:39:30.0	11.67	5.92	5.13	3.63	1.54	0.63	1.43	k2 III		
597	4:28:12.65	+54:42:42.3	15.21	3.28	2.60	1.84	0.86	0.33	0.77	f8 IV	1.49	1600
598	4:28:14.97	+54:39:13.7	15.31		3.17	2.22	0.89	0.42	0.88	k0.7 V	0.93	410
599	4:28:15.01	+54:38:20.6	14.42	3.12	2.51	1.80	0.80	0.31	0.73	g1.5 V	1.12	1260
600	4:28:16.04	+54:36:28.5	15.89			2.37:	1.01	0.44	1.05	k1 V	1.55	467
601	4:28:16.51	+54:59:00.3	11.82	3.84	3.36	2.31	0.79	0.51	0.87	k4.2 V	0.14	87
602	4:28:17.94	+55:30:26.6	13.57	3.24	2.65	1.86	0.91:	0.28	0.83:	f6		
603	4:28:18.15	+55:21:14.2	16.16			1.77	0.88:	0.13	1.08			
604	4:28:18.63	+55:05:38.8	14.27	3.17	2.22	1.34	0.66	0.24	0.59	a0 **	2.04	2670

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
605	4:28:18.76	+55:00:10.0	15.35	3.17	2.58	1.87	0.89	0.32	0.83	f9 V	1.57	900
606	4:28:20.39	+54:41:15.4	16.32			2.35:	0.92	0.44	0.96	k2	0.95	580
607	4:28:20.51	+54:57:45.8	12.15	2.42	1.80	1.11	0.58	0.21	0.49	b7 IV	1.9	1550
608	4:28:22.32	+54:28:54.9	14.55	3.33	2.54	1.80	0.88	0.32	0.80	f4 IV	2.33	1110
609	4:28:24.06	+55:14:08.7	12.62	4.86	4.08	2.93	1.35	0.47	1.25	g5.5 III	2.78	620
610	4:28:24.32	+54:57:57.7	15.42	2.53	1.87	1.29	0.66	0.23	0.61	b	2.15	3760
611	4:28:24.64	+55:29:06.4	15.34			3.38:	1.52:	0.58	1.31	k1 **	3.03	2090
612	4:28:25.10	+55:24:30.1	13.67	3.41	2.59	1.70	0.83	0.29	0.74	a9 V	2.33	670
613	4:28:26.30	+55:24:02.8	16.39			2.87:	1.23	0.40	1.11	k-m **		
614	4:28:26.92	+54:58:36.4	14.13	3.48	2.59	1.61	0.77	0.27	0.67	a9 IV:	1.82	1610
615	4:28:27.18	+55:27:22.3	13.45	4.86	4.11	2.90	1.34	0.47	1.20	g7 III	2.72	940
616	4:28:27.47	+55:19:28.8	12.62	4.22	3.32	2.41	1.13	0.40	1.07	g1.5 III		
617	4:28:27.67	+54:25:59.8	13.25	3.54	2.76	1.98	0.94	0.34	0.86	f6 IV	1.87	560
618	4:28:28.75	+55:12:03.5	13.99	3.57	2.82	2.00	0.96	0.34	0.92	f6 IV	1.94	760
619	4:28:29.37	+55:04:36.4	12.13	3.02	2.43	1.68	0.77	0.28	0.74	f8 IV	1.03	245
620	4:28:29.53	+54:34:56.5	14.99		3.40	2.40	1.03	0.44	1.01	k0.7 V	1.63	296
621	4:28:29.94	+54:58:13.6	14.84			2.83	1.07	0.62	1.12	k5.5 V	0.91	194
622	4:28:30.26	+55:09:56.9	15.21			2.91	1.32:	0.44	1.26		2.57	2310
623	4:28:30.42	+55:02:20.6	12.72	3.14	2.32	1.39	0.64	0.22	0.55	a7 V	1.27	740
624	4:28:30.78	+54:38:01.4	16.42			2.61:	1.04	0.55	1.08	k3.2 V	1.32	467
625	4:28:31.18	+54:29:49.9	14.54	2.86	2.20	1.53	0.81	0.26	0.82	b5		
626	4:28:31.38	+54:38:42.5	16.04			3.04	1.21	0.56	1.15:	k1 **		
627	4:28:31.60	+54:58:14.8	14.43		3.65	2.58	0.99	0.53:	1.03	k4 **	1.07	203
628	4:28:32.58	+54:28:49.8	14.29	3.34	2.61	1.84	0.89	0.32	0.81	f4 V	1.8	990
629	4:28:34.31	+54:30:54.0	14.77	3.65	2.84	2.03	0.98	0.34	0.87	f4 V	2.04	1050
630	4:28:34.36	+54:39:03.2	15.44			2.20	0.91	0.41	0.90	k1.5 V	1.14	458
631	4:28:35.03	+55:22:36.5	14.96	3.54	2.90	2.04	0.90	0.33	0.90	g3 V	1.43	1320
632	4:28:35.48	+55:07:26.3	13.14	3.29	2.57	1.80	0.84	0.30	0.80	f5 IV	1.44	650
633	4:28:39.85	+55:02:00.1	14.15	3.40	2.57	1.75	0.83	0.29	0.77	f1 IV	1.67	1350
634	4:28:40.00	+54:58:36.3	14.52	3.91	3.35	2.34	0.97	0.45	0.95	k1.7 V	1.27	251
635	4:28:41.44	+55:06:14.2	14.78			3.97:	1.67	0.74	1.54	k6		
636	4:28:41.64	+54:24:00.7	12.78	3.47	2.55	1.54	0.72	0.25	0.61	a6 IV	1.34	890
637	4:28:42.02	+54:38:06.5	15.93			3.43:	1.53	0.57	1.40	k0 III	3.05	2740
638	4:28:42.97	+55:16:54.5	15.84			3.41:	1.49	0.60	1.34	k1.5 III	2.75	3090
639	4:28:44.50	+55:27:27.0	14.85	3.51	2.71	1.90	0.91:	0.30:	0.80	f5 IV	1.72	1680
640	4:28:44.80	+54:36:29.0	15.95			3.06:	1.20:	0.73	1.31:	m1 V:	1.46	238
641	4:28:44.97	+54:59:13.8	14.50	3.58	2.63	1.76	0.84	0.29	0.73	f2 **	1.74	1580
642	4:28:45.03	+54:58:28.9	12.53	4.96	4.26	2.96	1.22	0.51	1.15	k1 IV		
643	4:28:45.22	+55:03:40.0	14.85	3.38	2.64	1.91	0.91	0.32	0.84	f5 V	1.76	1240
644	4:28:46.18	+55:17:01.0	12.32	3.58	2.76	1.81	0.93	0.53	0.50	a4		
645	4:28:46.38	+55:11:22.2	13.58			4.39	1.86	0.76	1.75	k4 III	2.85	2270
646	4:28:46.78	+54:42:12.8	12.90	2.83	2.02	1.19	0.59	0.21	0.48	b9.5 IV	1.66	1540
647	4:28:47.87	+54:22:33.7	14.57			4.43:	1.89	0.78	1.82	m1 III	3.01	3330
648	4:28:49.24	+54:43:18.1	14.17	4.20	3.38	2.41	1.13	0.41	1.06	g2 III	2.2	1570
649	4:28:49.35	+55:01:31.4	14.97	3.12	2.13	1.31	0.68	0.24	0.58	b9 IV	2.22	4160
650	4:28:49.84	+54:32:45.2	11.46	2.32	1.78	1.17	0.62	0.22	0.52	b6 V	2.06	1050
651	4:28:51.76	+55:05:07.3	15.87			3.40	1.49:	0.61	1.31	k1	2.97	910
652	4:28:51.90	+54:59:10.8	15.04	3.34	2.72	1.64:	0.82:	0.32:	0.89	a9		
653	4:28:53.28	+54:30:53.6	13.41	3.39	2.39	1.44	0.70	0.24	0.59	a1.5 IV	2.14	1240
654	4:28:53.47	+55:04:49.4	14.59	3.70	2.72	1.69	0.84	0.27:	0.74	a6 IV	2.5	1890
655	4:28:53.66	+55:28:43.2	15.03			2.49	1.02	0.46	1.02	k1.7 V	1.37	270
656	4:28:53.99	+54:17:35.5	16.26			3.10	1.41:	0.46:		k-m		

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
657	4:28:54.40	+55:19:26.8	13.36	3.49	2.76	1.97	0.93	0.33	0.86	f7 **	1.8	590
658	4:28:55.30	+54:59:13.5	14.48	3.81	3.19	2.00:	1.04	0.40	1.02	f1		
659	4:28:55.59	+55:02:59.3	14.37	3.34	2.48	1.70	0.81	0.28	0.73	f0 IV	1.71	1560
660	4:28:55.92	+55:03:56.2	14.24	3.59	2.75	1.94	0.96	0.32	0.87	f3 IV	2.87	680
661	4:28:55.93	+54:49:39.5	16.12			2.69:	1.20	0.49	1.13	k0 V	2.32	363
662	4:28:56.15	+55:08:12.4	14.97			3.13	1.39	0.50	1.28	k0 III	2.59	2170
663	4:28:58.47	+54:35:52.6	13.88	3.16	2.49	1.76	0.83	0.30	0.76	f7 V	1.4	930
664	4:28:59.17	+55:20:28.2	16.97			1.88:	0.84	0.26	0.91	k-m **		
665	4:29:01.06	+54:54:16.7	14.39	3.41	2.75	1.94	0.94	0.33	0.87	f6 IV	1.92	570
666	4:29:01.35	+54:42:33.5	13.39	4.94	4.19	2.95	1.32	0.49	1.22	g8.5 III	2.4	377
667	4:29:01.53	+55:29:58.5	14.50	4.05	3.30	2.25	1.13	0.40	1.00	a-f		
668	4:29:03.24	+54:36:15.3	10.04	2.26	1.80	1.19	0.53	0.21	0.53	f6 V	0.16	176
669	4:29:03.27	+55:17:05.5	14.18	3.53	2.73	1.92	0.93	0.32	0.86	f3 IV	1.96	880
670	4:29:03.38	+55:27:40.1	10.38	5.39	4.66	3.26	1.39	0.57	1.28	k1 IV:		
671	4:29:04.13	+54:23:59.4	16.45			2.85:	1.22	0.57	1.18	k2.7 V	2.2	347
672	4:29:04.20	+55:22:08.3	14.93			2.49	1.05	0.48	1.02	k1 **	1.64	255
673	4:29:05.38	+55:04:25.3	13.56	3.45	2.59	1.62	0.75	0.23	0.73	a9 **	1.24	1210
674	4:29:05.93	+54:42:02.5	13.92	3.54	2.68	1.78	0.83	0.30	0.75	f2 IV	1.4	950
675	4:29:06.04	+54:40:20.1	16.38			2.33:	0.97	0.42	0.92	k0 **	1.16	2660
676	4:29:06.61	+55:26:41.9	15.88			2.98:	1.31	0.43	1.26:	k-m	2.3	3710
677	4:29:07.56	+54:53:24.0	13.44	4.28	3.53	2.55	1.17	0.41	1.11	g4 III	2.24	1110
678	4:29:07.57	+54:29:28.6	14.97			3.92:	1.74:	0.69	1.53:	k2.5 **	3.64	1410
679	4:29:07.94	+55:13:02.9	12.39	4.30	3.42	2.31	1.13	0.40	1.11	f5		
680	4:29:07.97	+55:01:15.8	15.66			2.32	1.03	0.45	0.98	k0 V	1.67	456
681	4:29:09.18	+54:50:52.2	17.18			1.85	1.04	0.38	0.93	k-m		
682	4:29:09.58	+54:34:18.0	14.03			3.69	1.61	0.60	1.50	m3/4	1.51	1510
683	4:29:10.39	+55:14:46.4	11.93	5.26	4.35	3.12	1.43	0.53	1.34	g8 III		
684	4:29:10.52	+55:21:04.9	16.31			2.56	0.98	0.51	0.97	k3.2	1.09	496
685	4:29:10.57	+54:57:33.7	14.62			3.39:	1.45	0.58	1.37	k1.5 III		
686	4:29:11.92	+54:43:02.0	16.60			2.34	0.98	0.48	0.97	k2.5:	1.38	670
687	4:29:12.31	+55:05:16.6	14.52			3.42	1.48	0.59	1.37	k1.2 III	2.71	1710
688	4:29:13.06	+55:01:43.4	14.75	3.65	2.97	2.10	0.93	0.34	0.90	g3 IV	1.38	2970
689	4:29:13.14	+54:43:22.9	16.32			1.87	0.94	0.38	0.84	k-m		
690	4:29:14.52	+54:54:02.5	14.70	3.34	2.42	1.46	0.69	0.24	0.54	a6 III	1.68	2530
691	4:29:15.58	+54:53:29.4	13.58	3.37	2.40	1.42	0.68	0.24	0.58	a3 IV	1.82	1630
692	4:29:15.64	+54:43:14.3	12.71	3.47	3.05	2.07	0.76	0.44	0.79	k3 V	0.25	148
693	4:29:15.79	+54:38:32.4	15.78			2.93:	1.34	0.44	1.26	k-m	2.56	3050
694	4:29:16.41	+55:22:41.3	11.06	2.46	1.89	1.19	0.63	0.22	0.56	b6 IV	2.11	850
695	4:29:16.89	+55:16:08.0	15.14			3.33:	1.40	0.56	1.26	k2 III	2.23	2920
696	4:29:17.68	+54:43:23.4	11.36	2.92	2.20	1.42	0.66	0.25	0.62	f1 IV	1.43	385
697	4:29:19.39	+55:26:39.5	15.27			2.50:	1.12	0.36	1.16	k-m **	2.06	1070
698	4:29:20.09	+55:16:19.0	15.84			3.17	1.39:	0.48	1.27:	k1/2	2.52	3350
699	4:29:20.60	+54:41:47.4	16.32			2.69:	1.09	0.64	1.09	k8	0.28	223
700	4:29:21.41	+55:20:58.2	15.85			3.01:	1.12:	0.66	1.18	k6 V	1.3	269
701	4:29:21.42	+55:23:27.9	12.35	2.74	1.96	1.16	0.60	0.20	0.53	b8.5 V	1.88	1460
702	4:29:22.25	+54:58:25.3	15.10			2.57:	1.13	0.62:	1.01:	k5		
703	4:29:23.26	+55:21:29.6	13.63	4.44	3.75	2.66	1.21	0.43	1.12	g6 III	2.24	1250
704	4:29:24.26	+55:19:12.6	13.55	3.11	2.19	1.31	0.66	0.23	0.55	b9/a0 **	2.04	1910
705	4:29:24.83	+54:57:41.9	14.50	3.53	2.93	2.05	0.90	0.35	0.87	g6 IV	1.27	381
706	4:29:25.03	+54:37:36.0	12.12	3.58	2.60	1.57	0.77	0.26	0.68	a2 IV	2.23	690
707	4:29:27.91	+55:01:20.5	16.08			2.71:	1.11:	0.56	1.10:	k3 V	1.64	356
708	4:29:28.20	+54:29:40.6	13.93	3.56	2.68	1.68	0.81	0.26	0.71	a9 IV	2.24	790

Table A.1. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
709	4:29:28.32	+54:57:43.6	14.03	3.52	2.60	1.78	0.83	0.29	0.80	f4 III		
710	4:29:29.89	+55:20:31.2	15.06			2.95:	1.27:	0.42	1.23	k2/3	2.01	2960
711	4:29:33.47	+54:59:52.6	12.56	4.70	3.95	2.78	1.26	0.45	1.19	g6 III	2.37	730
712	4:29:33.56	+54:33:36.8	15.45			2.40	1.04	0.43	1.01	k0 V	1.68	375
713	4:29:35.06	+55:19:14.7	14.99	3.36	2.39	1.40	0.65	0.21	0.63:	a5 IV	1.41	3090
714	4:29:35.07	+55:17:43.1	14.34	3.51	2.76	1.94	0.93	0.31	0.86	f5 IV	1.84	940
715	4:29:35.11	+55:24:01.8	14.77	3.14	2.54	1.77	0.79:	0.26:	0.87	g0 IV	1.04	720
716	4:29:36.17	+54:58:24.1	14.93			3.14:	1.32	0.51	1.23	k1.7 III	2.05	2800
717	4:29:38.42	+54:28:59.3	15.03	3.36	2.92	2.02	0.94	0.36	0.90	g5 V		
718	4:29:39.19	+54:30:33.9	14.77	3.51	2.79	2.04	0.96:	0.37		f8 **	1.91	1070
719	4:29:39.70	+54:35:28.6	14.24	3.51	2.65	1.83	0.90	0.32	0.69	f1 IV	2.55	1380
720	4:29:40.41	+55:20:22.3	15.63			2.97:	1.30:	0.41	1.17:	k2		
721	4:29:40.70	+54:30:02.4	15.14		2.71	1.79	0.93	0.31	0.82	k-m	3.15	1890
722	4:29:43.73	+55:19:55.3	15.14	3.22	2.30	1.45	0.78:	0.27:	0.69:	b8.5 V	2.65	3960
723	4:29:45.28	+54:52:11.4	12.15	2.79	2.34	1.60	0.65	0.27	0.67	g7 V	0.2	214
724	4:29:45.98	+55:17:04.7	15.28			3.03:	1.10:	0.62	1.18:	k5: **		
725	4:29:47.06	+54:55:10.5	14.29	3.69	2.94	2.07	0.99	0.35	0.99	f8 IV	2.03	820
726	4:29:47.53	+55:23:03.7	14.27	3.61	2.84	1.99	0.99	0.27	0.99	f3	2.27	540
727	4:29:51.43	+55:22:09.8	12.42	3.56	2.60	1.56	0.75	0.31:	0.54	a4 III-IV:	2.14	820

Notes:

13. HD 27265, BD+54 761, A; **39.** HD 232937, BD+54 762, G0; **76.** HD 232940, BD+54 764, B9; **111.** BD+54 765, F8; **341.** HD 232946, BD+54 766, A0; **390.** IQ Cam, EB, sdB; **420.** HD 232951, BD+54 768, B9; **487.** IRAS 024229+5447; **566.** BD+54 770, A5; **580.** HD 232957, BD+54 771, M0; **644.** V355 Cam, RR Lyr variable.

A.2. VATT photometry and classification of stars in the TGU H994 P1 area

Table A.2.: The data catalog of stars in the three areas of TGU H994 P1 measured in the Vilnius seven-colour system from the VATT CCD exposures. The stars are numbered starting from 1001 to avoid confusion with the Maksutov catalog A.1. The running numbers, coordinates, V magnitudes, six color indices, photometric spectral types interstellar extinctions and distances are given. The stars with two asterisks in the last column have close neighbours or show asymmetrical images in the SkyView DSS atlas and/or VATT CCD exposures.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	$U-V$ mag	$P-V$ mag	$X-V$ mag	$Y-V$ mag	$Z-V$ mag	$V-S$ mag	Photom. sp. type	A_V mag	d pc
1001	04:22:12.79	+54:54:13.9	16.286	4.069	3.361	2.485	1.188	0.463		g5 V, md:		
1002	04:22:13.65	+54:54:25.8	17.164	3.902	3.186	2.299	1.139	0.417	0.998	f8 V	2.617	1290.0
1003	04:22:13.74	+54:49:44.8	18.029		3.148	2.330	1.149	0.406		f8 V	2.658	1880.0
1004	04:22:14.00	+54:53:16.9	18.476	4.391	3.733	2.773	1.332	0.491	1.175	g4 V	3.17	1220.0
1005	04:22:14.54	+54:52:02.9	16.544	4.066	3.066	2.002	0.984	0.338	0.821	a6 V	3.012	2030.0
1006	04:22:14.56	+54:51:39.1	19.301			2.716	1.386	0.621	1.085	g2 V	3.436	1790.0
1007	04:22:14.77	+54:47:09.0	19.483		3.298	2.480	1.232	0.496		g2		
1008	04:22:14.86	+54:46:46.3	17.831	4.070	3.159	2.214	1.099	0.437		f2 V	2.908	2420.0
1009	04:22:14.99	+54:46:29.5	19.235		3.151	2.239	1.112	0.339		f5 V	2.712	4020.0
1010	04:22:15.32	+54:52:00.2	19.272			2.877	1.387	0.630	1.125	g		
1011	04:22:15.33	+54:46:14.6	18.046	3.947	3.125	2.213	1.102	0.390		f2 V	2.92	2660.0
1012	04:22:15.41	+54:47:04.1	19.305		3.134	2.356	1.224	0.538				
1013	04:22:15.52	+54:47:51.6	17.827	3.864	2.957	2.007	0.981	0.356	0.754	a-f		
1014	04:22:15.53	+54:51:09.8	17.254	4.107	3.120	2.059	1.056	0.371	0.824	a3 V	3.478	2990.0
1015	04:22:15.66	+54:56:31.2	17.356	4.607	3.794	2.798	1.333	0.474	1.322	g5 IV	3.091	1790.0
1016	04:22:15.84	+54:53:15.8	16.900	3.990	3.226	2.341	1.149	0.421	0.993	f8 IV	2.7	2000.0
1017	04:22:16.09	+54:51:01.1	19.007	3.965	3.192	2.400	1.184	0.379	1.042	g3 V, md:		
1018	04:22:16.22	+54:47:45.7	18.064	3.989	3.181	2.393	1.206	0.459	1.001	f7 V	2.979	1780.0
1019	04:22:16.57	+54:50:06.0	18.215		4.531	3.371	1.588	0.589	1.426	g6 III	3.736	5270.0
1020	04:22:17.05	+54:50:16.6	17.353	4.336	3.409	2.485	1.247	0.447	1.075	f6 IV-V	3.212	1600.0
1021	04:22:17.11	+54:55:33.5	17.154	4.031	3.161	2.029	1.056	0.403	0.791	a3 **		
1022	04:22:17.29	+54:53:42.9	18.452	3.874	3.087	2.260	1.116	0.406	0.971	f7 V	2.604	2530.0
1023	04:22:17.36	+54:49:30.1	19.050	4.183	3.407	2.514	1.238	0.425	1.022	f9 V:		
1024	04:22:17.48	+54:53:26.2	19.209			2.815	1.320	0.518	1.150	g9 V	2.87	1340.0
1025	04:22:17.49	+54:45:26.6	17.437	4.772	3.948	2.996	1.302	0.613	1.428	k-m V		
1026	04:22:17.58	+54:51:08.2	19.337		3.671	2.720	1.277	0.505	1.120	g8		
1027	04:22:17.67	+54:53:53.0	19.066		3.719	2.725	1.261	0.567	1.135	g5-k0		
1028	04:22:17.68	+54:47:08.3	16.810	5.678	4.776	3.462	1.554	0.616	1.370	k0 III	3.261	3710.0
1029	04:22:17.69	+54:45:12.2	18.253	3.806	3.093	2.263	1.109	0.384	1.045	f9 V	2.45	2140.0
1030	04:22:17.74	+54:55:51.4	19.103	3.715	2.978	2.224	1.096	0.401	0.946	f8 V	2.438	3410.0
1031	04:22:17.83	+54:44:29.3	19.216		3.364	2.611	1.206	0.546	0.858	g		
1032	04:22:17.87	+54:54:48.9	18.737	4.219	3.230	2.311	1.163	0.464	0.996	f2 IV	3.174	4490.0
1033	04:22:18.18	+54:45:52.7	19.293		3.255	2.529	1.207	0.410	1.073	g		
1034	04:22:18.22	+54:55:16.0	18.301	3.961	3.048	1.982	0.955	0.371	0.782	a3 V, mr:		
1035	04:22:18.45	+54:55:38.0	18.809	4.304	3.729	2.617	1.163	0.451	1.093	k0 V	2.176	1400.0
1036	04:22:18.69	+54:47:25.8	17.442	3.890	3.167	2.322	1.143	0.418	1.001	f8 V	2.633	1450.0
1037	04:22:18.69	+54:50:23.2	18.148	4.721	4.166	3.030	1.422	0.531	1.305	g		
1038	04:22:18.84	+54:54:14.6	19.476		3.161	2.399	1.203	0.463	0.967	f7 V	2.966	3440.0
1039	04:22:19.06	+54:44:12.7	18.875	3.306	2.977	2.206	1.164	0.407	1.059			
1040	04:22:19.32	+54:49:58.5	17.708	4.172	3.147	2.100	1.058	0.351	0.846	a5 V	3.32	3290.0
1041	04:22:19.65	+54:47:11.9	16.393	5.333	4.543	3.207	1.438	0.606	1.273	k1-k2		
1042	04:22:19.80	+54:44:19.7	18.020	3.933	2.965	1.879	0.957	0.271	0.789	a3 V	3.066	5140.0
1043	04:22:19.82	+54:55:16.9	19.605		3.139	2.226	1.112	0.401	0.968	f2 IV		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1044	04:22:19.86	+54:50:36.6	16.214	4.233	3.488	2.538	1.222	0.450	1.064	g4 V	2.712	530.0
1045	04:22:19.88	+54:46:37.9	18.355	4.028	3.253	2.430	1.171	0.442	1.057	g0 V	2.667	1900.0
1046	04:22:20.18	+54:45:55.2	18.587	4.082	3.212	2.220	1.064	0.394	0.875	f		
1047	04:22:20.76	+54:56:04.3	18.092	4.070	3.223	2.382	1.171	0.419	1.061	f8 IV	2.791	3310.0
1048	04:22:20.81	+54:47:14.0	17.094	3.762	2.921	2.044	0.988	0.334	0.840	f		
1049	04:22:20.96	+54:52:56.2	19.268	4.111	3.367	2.496	1.293	0.493	1.113	a7 V	4.256	3650.0
1050	04:22:21.19	+54:49:46.7	19.447		3.258	2.220	1.098	0.385	0.905	a8 V		
1051	04:22:21.29	+54:47:45.2	18.485	4.028	3.135	2.319	1.144	0.443	1.037	f5-f8		
1052	04:22:21.34	+54:50:42.5	18.907			3.267	1.288	0.715	1.382	k6 V	1.822	790.0
1053	04:22:21.42	+54:53:18.8	19.496		2.874	2.007	0.873	0.123	1.107			
1054	04:22:21.45	+54:51:31.1	18.900	4.094	3.274	2.335	1.183	0.426	1.005	f4 V	3.091	3130.0
1055	04:22:21.50	+54:52:04.6	15.837	3.638	3.095	2.123	0.905	0.383	0.852	g9 V	1.144	630.0
1056	04:22:21.58	+54:44:41.4	10.341	2.347	2.004	1.336	0.557	0.199	0.536	g0 V	0.112	153.4
1057	04:22:21.70	+54:49:04.8	17.528	4.829	3.897	2.840	1.379	0.514	1.227	g2		
1058	04:22:21.72	+54:52:49.1	18.204		4.349	3.219	1.532	0.563	1.361	g5 III		
1059	04:22:22.24	+54:50:22.5	19.226	4.258	3.237	2.208	1.094	0.373	0.872	a8 V:		
1060	04:22:22.89	+54:55:49.7	18.240	3.930	3.178	2.328	1.132	0.415	1.028	f8 V	2.588	2140.0
1061	04:22:22.91	+54:53:46.4	16.989	4.984	4.094	2.974	1.425	0.555	1.276	g7 IV	3.307	1330.0
1062	04:22:22.96	+54:48:27.7	14.221	3.101	2.581	1.803	0.803	0.285	0.760	g3 V	1.011	496.6
1063	04:22:22.97	+54:47:04.8	19.092	3.864	3.115	2.378	1.167	0.524	0.932	g		
1064	04:22:23.26	+54:55:55.4	17.959	4.156	3.107	2.074	0.975	0.360		**		
1065	04:22:23.29	+54:49:43.0	19.498			2.677	1.366	0.520	1.129	a-f		
1066	04:22:23.35	+54:50:24.2	19.477		3.509	2.436	1.233	0.419	1.072	a9 IV-V	3.798	4740.0
1067	04:22:23.53	+54:51:12.5	17.527	4.590	3.767	2.746	1.298	0.485	1.185	g2 V	3.07	940.0
1068	04:22:23.58	+54:46:57.8	15.385	3.407	2.706	1.896	0.925	0.316	0.808	f6 **		
1069	04:22:23.70	+54:55:08.7	17.843	4.021	3.129	2.270	1.130	0.411	1.008	f5 IV	2.787	3240.0
1070	04:22:23.75	+54:55:56.1	17.556	3.949	3.233	2.394	1.149	0.443	1.021	g2 **	2.45	1260.0
1071	04:22:24.29	+54:50:59.0	17.942	4.175	3.177	2.270	1.141	0.468		f2 **		
1072	04:22:24.31	+54:54:33.7	17.240	4.164	3.131	2.223	1.108	0.400	1.006	f3 III	2.862	3320.0
1073	04:22:24.36	+54:49:30.2	19.165		3.405	2.371	1.244	0.562	0.982	**		
1074	04:22:24.59	+54:51:46.9	19.680			2.453	1.221	0.401	1.087	f7 V	3.041	3650.0
1075	04:22:24.60	+54:50:43.8	18.930	4.391	3.432	2.576	1.251	0.431	1.149	g5 III, md:		
1076	04:22:24.61	+54:50:56.1	17.652	4.400	3.623	2.654	1.261	0.516	1.111	g5 **	2.875	900.0
1077	04:22:24.63	+54:51:05.2	19.111			3.203	1.560	0.610	1.328	g9 V	3.869	810.0
1078	04:22:24.82	+54:46:37.4	19.331	3.944	3.174	2.240	1.123	0.398	0.938	f5 V	2.758	4120.0
1079	04:22:24.83	+54:48:07.5	11.714	2.882	2.348	1.602	0.717	0.248	0.675	f9 IV-V	0.84	305.3
1080	04:22:24.91	+54:53:46.3	16.135	3.987	2.971	1.902	0.942	0.332	0.768	a5 IV	2.837	2510.0
1081	04:22:25.00	+54:47:46.6	18.450	4.166	3.511	2.450	1.152	0.433	1.016	g5 V	2.421	1610.0
1082	04:22:25.39	+54:54:30.4	19.641		3.206	2.266	1.074	0.369	0.969	g4 V	2.097	3430.0
1083	04:22:25.60	+54:52:34.4	17.354	4.115	3.071	1.976	1.002	0.353	0.823	a5 III	3.17	4980.0
1084	04:22:26.10	+54:50:53.7	19.630		3.373	2.459	1.182	0.398	1.132	g		
1085	04:22:26.18	+54:45:00.9	19.538		3.175	2.353	1.181	0.401	1.152	g0 III, md:		
1086	04:22:26.52	+54:56:25.8	17.980	4.217	3.489	2.559	1.213	0.438	1.109	g5 V	2.675	1150.0
1087	04:22:26.54	+54:46:05.0	18.904			2.986	1.350	0.550	1.244	k0.5 V	2.954	1020.0
1088	04:22:26.81	+54:53:39.2	18.265	4.007	2.977	1.896	0.923	0.309	0.784	a5, m		
1089	04:22:27.00	+54:55:15.9	14.032	3.117	2.555	1.774	0.801	0.289	0.733	g0 IV-V	1.127	740.0
1090	04:22:27.16	+54:52:28.8	17.555	4.365	3.320	2.209	1.095	0.393	0.912	a5 V, mr:		
1091	04:22:27.37	+54:56:37.1	18.255	4.673	3.752	2.760	1.307	0.514		g3-g5		
1092	04:22:27.54	+54:55:22.5	18.555	3.804	3.011	2.095	0.911	0.406	1.294	g **		
1093	04:22:27.76	+54:47:23.4	17.452	3.852	3.015	2.013	1.084	0.465	0.905	b **		
1094	04:22:27.77	+54:49:04.5	17.974	4.246	3.471	2.568	1.248	0.465	1.142	g0 V	2.987	1370.0
1095	04:22:27.89	+54:47:33.7	14.732	5.548	4.711	3.302	1.432	0.592	1.266	k2 III-IV		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	<i>V</i> mag	<i>U-V</i> mag	<i>P-V</i> mag	<i>X-V</i> mag	<i>Y-V</i> mag	<i>Z-V</i> mag	<i>V-S</i> mag	Photom. sp. type	<i>A_V</i> mag	<i>d</i> pc
1096	04:22:27.93	+54:55:11.7	15.069	3.078	2.509	1.789	0.845	0.301	0.763	f8 V, md:		
1097	04:22:28.07	+54:44:12.0	18.600	3.817	3.226	2.428	1.288	0.601	1.100			
1098	04:22:28.19	+54:51:09.6	18.019	3.716	2.783	1.817	0.925	0.298	0.758	a		
1099	04:22:28.27	+54:46:28.5	15.618	4.508	3.552	2.494	1.232	0.463	1.135	f-g		
1100	04:22:28.37	+54:44:51.4	15.731	4.859	4.218	2.921	1.136	0.723	1.180	k-m V **		
1101	04:22:28.53	+54:52:18.6	19.243		3.570	2.726	1.440	0.647	1.172	**		
1102	04:22:28.54	+54:49:51.7	16.421	4.212	3.152	2.037	1.014	0.342	0.833	a5 IV	3.137	2490.0
1103	04:22:28.77	+54:52:03.8	16.580	5.641	4.804	3.435	1.568	0.650	1.397	k1 IV	3.36	1060.0
1104	04:22:28.91	+54:48:57.8	18.369	4.387	3.453	2.563	1.263	0.479	1.164	f8 III-IV		
1105	04:22:28.98	+54:45:02.2	18.954	3.996	3.173	2.308	1.136	0.394	1.010	f5 V	2.812	3380.0
1106	04:22:29.14	+54:51:21.7	17.784	4.036	3.238	2.356	1.172	0.405	1.068	f7 V	2.837	1670.0
1107	04:22:29.18	+54:54:05.8	18.599	4.413	3.643	2.733	1.330	0.537	1.223	g8 V, md:		
1108	04:22:29.50	+54:44:18.8	12.310	2.684	2.272	1.565	0.679	0.245	0.668	g2 V	0.495	277.3
1109	04:22:29.55	+54:56:44.5	17.671	4.043	2.958	1.939	0.944	0.322		a7 III:		
1110	04:22:29.59	+54:49:02.1	19.389			2.820	1.336	0.522	1.273	g5 V, md:		
1111	04:22:29.72	+54:52:37.2	19.570			2.774	1.342	0.502	1.133	g3 V:		
1112	04:22:30.36	+54:55:53.6	16.041	3.985	3.416	2.321	1.054	0.465	0.987	k0 V: **		
1113	04:22:31.08	+54:51:54.3	19.119		3.606	2.827	1.393	0.500	1.247	g		
1114	04:22:31.09	+54:54:23.9	18.664	4.120	3.162	2.278	1.122	0.410	1.030	f2 IV:		
1115	04:22:31.47	+54:48:17.5	19.177		3.244	2.479	1.224	0.429	1.126	f-g		
1116	04:22:31.61	+54:53:23.5	19.450	3.926	3.155	2.324	1.183	0.438	1.002	f5 V	3.008	3880.0
1117	04:22:32.14	+54:45:36.9	15.249	3.398	2.515	1.607	0.837	0.299	0.720	a **		
1118	04:22:32.33	+54:52:39.8	17.617	4.269	3.171	2.053	1.039	0.344	0.881	a3		
1119	04:22:32.58	+54:55:11.2	17.406	3.991	3.045	2.044	1.011	0.351	0.913	f0 IV	2.833	3120.0
1120	04:22:32.66	+54:48:27.4	19.419		3.526	2.639	1.237	0.470	1.127	g5 V:		
1121	04:22:32.67	+54:45:01.6	19.267	3.982	3.223	2.372	1.200	0.401	1.111	f6 V	2.995	3310.0
1122	04:22:33.31	+54:51:25.9	18.666	4.167	3.300	2.425	1.200	0.414	1.099	f5		
1123	04:22:33.35	+54:48:01.3	16.123	4.014	3.164	2.309	1.149	0.402	1.055	f5 V	2.866	890.0
1124	04:22:33.38	+54:52:28.7	18.681	4.202	3.221	2.171	1.071	0.368	0.940	a9 V	3.124	3900.0
1125	04:22:33.48	+54:53:08.9	18.078	3.946	3.023	1.971	0.996	0.361	0.783	a5 **	3.062	4400.0
1126	04:22:33.58	+54:49:09.0	16.567	4.263	3.680	2.485	1.002	0.518	1.002	k3 V	1.256	550.0
1127	04:22:33.64	+54:56:04.9	16.983	4.010	3.163	2.320	1.151	0.442	1.060	f5 V	2.875	1320.0
1128	04:22:33.72	+54:50:11.9	18.670	4.279	3.539	2.594	1.252	0.455	1.157	g3 V	2.879	1630.0
1129	04:22:33.85	+54:48:24.1	19.151	4.073	3.279	2.303	1.156	0.419	1.028	f3 V	3.062	3840.0
1130	04:22:33.95	+54:55:29.9	18.046	4.115	3.378	2.540	1.217	0.477	1.119	g3 V	2.733	1310.0
1131	04:22:34.19	+54:47:46.0	19.011	4.184	3.161	2.305	1.157	0.429	1.086	f		
1132	04:22:34.28	+54:56:45.6	18.638	4.387	3.363	2.288	1.080	0.439		a		
1133	04:22:34.88	+54:50:41.8	17.093	4.178	3.342	2.458	1.236	0.437	1.125	f5 V	3.228	1180.0
1134	04:22:34.94	+54:46:41.7	18.692	4.053	3.019	1.988	0.971	0.334	0.845	a7 IV		
1135	04:22:34.97	+54:49:18.8	17.169	5.598	4.580	3.373	1.622	0.597	1.464	g8 III	3.752	3340.0
1136	04:22:35.21	+54:45:14.0	17.502	4.210	3.439	2.479	1.177	0.442	1.118	g2 V	2.567	1170.0
1137	04:22:35.58	+54:53:12.4	17.277	3.939	3.105	2.228	1.110	0.415	0.985	f3 V	2.87	1770.0
1138	04:22:35.87	+54:50:01.9	15.288	3.035	2.397	1.688	0.878	0.285	0.764	b-f		
1139	04:22:35.87	+54:54:05.7	19.635			2.741	1.351	0.447	1.215	g		
1140	04:22:35.90	+54:45:39.7	17.511	3.963	3.113	2.252	1.107	0.393	1.028	f6 IV	2.65	2870.0
1141	04:22:36.12	+54:51:04.3	19.604		3.370	2.606	1.289	0.464	1.198	g		
1142	04:22:36.29	+54:53:42.1	17.240	4.177	3.247	2.316	1.151	0.415	1.065	f5 III	2.916	3050.0
1143	04:22:36.31	+54:51:42.1	14.893	3.769	2.910	2.019	1.001	0.344	0.886	f2 V	2.5	760.0
1144	04:22:36.37	+54:44:32.6	19.185	3.979	3.185	2.400	1.167	0.422	1.122	g0		
1145	04:22:36.82	+54:52:23.8	16.999	5.194	4.351	3.204	1.510	0.572	1.346	g8 III-IV	3.432	2110.0
1146	04:22:36.98	+54:49:18.3	19.634			2.703	1.369	0.442	1.212	f5		
1147	04:22:37.23	+54:48:23.1	19.059	4.263	3.491	2.547	1.266	0.456	1.136	g0 V	3.062	2190.0

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1148	04:22:37.44	+54:53:29.8	13.890	6.048	5.148	3.701	1.602	0.620	1.415	k2 III	3.128	1080.0
1149	04:22:37.52	+54:46:12.7	18.196	3.854	2.978	2.113	1.061	0.372	0.940	f2 IV	2.75	4260.0
1150	04:22:37.77	+54:56:30.1	15.907	5.252	4.377	3.133	1.418	0.587	1.290	g9 III	2.779	2990.0
1151	04:22:37.83	+54:53:44.2	17.453	3.926	3.052	2.174	1.102	0.383	0.966	f2 V	2.92	2030.0
1152	04:22:38.30	+54:45:17.8	19.611	3.784	3.054	2.182	1.067	0.352	1.037	f8		
1153	04:22:38.58	+54:45:35.1	17.871	3.931	2.990	1.971	0.989	0.356	0.848	a7 V	2.991	3440.0
1154	04:22:38.77	+54:47:41.4	17.802	4.143	3.156	2.176	1.093	0.411	0.940	f2 III	2.883	4400.0
1155	04:22:38.85	+54:45:47.9	17.323	3.936	3.152	2.293	1.149	0.419	1.055	f6 V	2.783	1490.0
1156	04:22:39.00	+54:53:41.6	18.371	4.073	3.091	2.170	1.052	0.356	0.982	f		
1157	04:22:39.15	+54:49:56.6	19.455		3.279	2.249	1.106	0.228	0.973			
1158	04:22:39.18	+54:44:26.8	18.990	3.962	3.169	2.345	1.164	0.415	1.026	f7 V	2.804	2960.0
1159	04:22:39.21	+54:53:15.7	18.585	4.369	3.433	2.558	1.231	0.397	1.176			
1160	04:22:39.67	+54:50:30.0	18.596	4.105	3.226	2.261	1.133	0.413	0.982	f0 V	3.299	3310.0
1161	04:22:40.03	+54:54:41.8	18.646		4.284	3.170	1.339	0.584	1.315	k1 IV:		
1162	04:22:40.18	+54:50:25.7	18.555	4.270	3.351	2.448	1.240	0.474	1.100	f4 IV:		
1163	04:22:40.22	+54:46:26.5	19.079	3.861	3.277	2.363	1.180	0.407	1.083	g		
1164	04:22:40.24	+54:51:50.3	19.100		3.283	2.224	1.093	0.394	0.945	a7		
1165	04:22:40.35	+54:46:42.8	19.344			2.950	1.363	0.483	1.302	g6 III		
1166	04:22:40.52	+54:48:59.4	19.338			2.892	1.389	0.521	1.294	g		
1167	04:22:40.75	+54:47:43.4	17.016	4.055	3.276	2.418	1.211	0.427	1.095	f8 V	2.916	1050.0
1168	04:22:40.77	+54:51:00.6	17.663	4.376	3.562	2.625	1.260	0.501	1.124	g4 V	2.87	970.0
1169	04:22:40.99	+54:55:31.4	18.744	4.371	3.602	2.597	1.271	0.493	1.177	g2 V	2.958	1730.0
1170	04:22:41.03	+54:53:37.2	17.325	4.184	3.185	2.102	1.061	0.379	0.897	a6 V	3.332	2500.0
1171	04:22:41.10	+54:49:31.8	16.022	5.184	4.166	3.001	1.481	0.551	1.358	G0 III-IV		
1172	04:22:41.13	+54:50:15.5	19.248		3.713:	2.702	1.317	0.491	1.183	g2		
1173	04:22:41.16	+54:47:30.5	18.664	3.955	3.100	2.223	1.134	0.389	1.046	f5 IV	2.804	4700.0
1174	04:22:41.27	+54:44:58.2	19.607		3.143	2.309	1.136	0.429	1.096	f8:		
1175	04:22:41.48	+54:53:41.6	17.900	4.371	3.641	2.648	1.274	0.521	1.120	g3 V:		
1176	04:22:41.84	+54:48:10.0	16.243	4.923	4.024	2.945	1.462	0.525	1.302	g2 IV	3.794	810.0
1177	04:22:42.72	+54:50:06.7	18.725	4.502:	3.467	2.549	1.280	0.427	1.219	f-g		
1178	04:22:43.05	+54:54:08.1	18.810	4.310	3.457	2.558	1.249	0.474	1.145	f9 V	3.033	2120.0
1179	04:22:43.26	+54:52:19.9	17.882	3.945	2.953	1.895	0.976	0.347	0.791	a5 IV	2.979	5260.0
1180	04:22:43.59	+54:49:52.8	18.622	4.518	3.651	2.713	1.331	0.484	1.271	f9 V	3.374	1660.0
1181	04:22:43.87	+54:45:26.8	19.204	3.901	3.020	2.164	1.096	0.394	1.055	f3 IV		
1182	04:22:44.28	+54:52:34.8	19.029	4.119	3.387	2.467	1.228	0.448	1.076	f9 V	2.945	2440.0
1183	04:22:44.29	+54:51:14.0	17.745	4.200	3.325	2.488	1.244	0.487	1.088	f6 V	3.178	1510.0
1184	04:22:44.34	+54:47:51.3	17.905	5.189	4.201	3.131	1.518	0.587	1.353	g		
1185	04:22:44.50	+54:52:59.1	18.322	4.009	3.069	2.220	1.114	0.396	0.971	f3 III-IV	2.887	4710.0
1186	04:22:44.98	+54:55:55.4	19.420		3.171	2.501	1.247	0.511	1.160	f-g		
1187	04:22:45.76	+54:44:51.3	18.247		4.431	3.106	1.261	0.736	1.275	k5 V	2.001	640.0
1188	04:22:45.82	+54:55:49.6	18.857	4.221	3.383	2.482	1.195	0.451	1.157	g0 IV	2.766	4550.0
1189	04:22:45.89	+54:52:25.1	18.673	4.299	3.426	2.522	1.245	0.444	1.121	f8 IV	3.099	3760.0
1190	04:22:46.10	+54:50:48.7	16.723	4.045	2.982	1.908	0.976	0.343	0.824	a3 IV	3.145	3430.0
1191	04:22:46.37	+54:44:18.0	14.693	4.250	3.216	2.232	1.091	0.392	1.012	f2 III	2.875	1060.0
1192	04:22:46.73	+54:55:59.7	19.127		3.513	2.580	1.278	0.498	1.148	g3		
1193	04:22:46.75	+54:52:38.4	18.508	4.281	3.564	2.586	1.275	0.487	1.155	g2 V	2.974	1540.0
1194	04:22:46.81	+54:51:53.7	18.800	4.332	3.208	2.120	1.035	0.365	0.861	a5		
1195	04:22:46.82	+54:50:10.7	16.110	3.913	3.389	2.249	0.938	0.439	0.921	k2 V	1.073	530.0
1196	04:22:46.83	+54:49:08.9	18.668		4.213:	3.027	1.454	0.613	1.318	k0 V:		
1197	04:22:46.84	+54:45:37.7	15.282	4.013	3.004	1.927	0.932	0.321	0.825	a6 IV	2.754	1640.0
1198	04:22:46.94	+54:44:40.2	18.224	3.912	3.010	2.052	0.998	0.340	0.922	f0 IV:		
1199	04:22:47.37	+54:48:27.5	18.831		3.750	2.792	1.303	0.502	1.208	g7 V	2.924	1300.0

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	<i>V</i> mag	<i>U-V</i> mag	<i>P-V</i> mag	<i>X-V</i> mag	<i>Y-V</i> mag	<i>Z-V</i> mag	<i>V-S</i> mag	Photom. sp. type	<i>A_V</i> mag	<i>d</i> pc
1200	04:22:47.69	+54:49:04.5	16.209	4.543	3.606	2.635	1.317	0.465	1.231	f8 V	3.357	590.0
1201	04:22:47.72	+54:47:02.8	19.633	3.725	3.058	2.377	1.149	0.375	1.096			
1202	04:22:47.92	+54:53:51.3	18.442	3.999	3.279	2.455	1.198	0.431	1.129	g0 V	2.779	1870.0
1203	04:22:48.20	+54:54:33.0	17.372	4.417	3.688	2.653	1.231	0.472	1.138	g7 IV-V	2.563	1320.0
1204	04:22:48.23	+54:51:24.7	17.906	4.286	3.197	2.084	1.051	0.377	0.896	a5 IV	3.291	4600.0
1205	04:22:48.38	+54:44:30.3	18.015	4.181	3.059	1.944	0.964	0.319	0.842	a3		
1206	04:22:48.46	+54:45:58.6	16.511	4.208	3.428	2.483	1.217	0.455	1.121	f8 V	2.941	820.0
1207	04:22:48.54	+54:46:54.1	19.591		3.180	2.336	1.143	0.425	1.058	f8 V	2.633	3900.0
1208	04:22:48.59	+54:49:15.2	19.018		3.871	2.901	1.428	0.513	1.328	g1		
1209	04:22:48.64	+54:48:34.7	16.792	4.242	3.264	2.241	1.127	0.400	0.982	f0 V	3.274	1460.0
1210	04:22:48.69	+54:56:24.7	19.228		3.680	2.816	1.343	0.537	1.206	g5-k0 V		
1211	04:22:48.77	+54:53:10.1	19.629		3.126	2.256	1.147	0.379	1.122	f		
1212	04:22:48.93	+54:52:27.5	15.407	3.207	2.698	1.887	0.846	0.327	0.803	g5 V	1.148	710.0
1213	04:22:49.08	+54:48:09.8	17.047	3.734	2.751	1.792	0.927	0.302	0.799	b9 IV:		
1214	04:22:49.21	+54:45:04.7	13.752	3.103	2.569	1.731	0.778	0.273	0.729	g		
1215	04:22:49.22	+54:50:45.1	19.657		3.245	2.480	1.266	0.423	1.099	f-g		
1216	04:22:49.36	+54:54:07.8	18.840		3.526	2.673	1.266	0.461	1.214	g3 V	2.937	1720.0
1217	04:22:49.57	+54:52:00.1	14.334	3.829	2.956	2.004	0.969	0.342	0.848	f0 IV-V	2.637	720.0
1218	04:22:49.72	+54:46:04.3	18.863	3.972	3.021	1.912	0.962	0.330	0.816	a3 V		
1219	04:22:50.04	+54:51:05.0	19.538			2.976	1.344	0.578	1.309	k1 V	2.887	1290.0
1220	04:22:50.15	+54:49:29.5	18.029			3.544	1.659	0.637	1.499	g8 III-IV	4.052	2540.0
1221	04:22:50.36	+54:54:05.1	18.971	4.291	3.205	2.161	1.041	0.364	0.957	a-f		
1222	04:22:50.45	+54:54:48.4	18.432	4.436	3.621	2.738	1.324	0.511	1.231	g3 V	3.178	1270.0
1223	04:22:50.45	+54:46:01.2	18.698	4.093	3.084	2.017	0.991	0.352	0.885	f0 IV-V	2.729	5170.0
1224	04:22:50.68	+54:44:13.8	17.692			1.792	1.003	0.346	0.907	b		
1225	04:22:50.76	+54:54:27.3	17.552	3.994	3.000	2.013	1.004	0.314	0.889	a7		
1226	04:22:50.81	+54:55:38.6	16.673	4.479	3.420	2.374	1.229	0.514	1.099	b9 V, p:		
1227	04:22:50.91	+54:48:47.5	19.581		3.419	2.484	1.194	0.371	1.172			
1228	04:22:50.92	+54:46:35.6	18.983	4.505	3.701	2.680	1.241	0.517	1.165	g8		
1229	04:22:50.98	+54:54:16.9	19.042			2.971	1.261	0.543	1.252	k1 IV:		
1230	04:22:51.16	+54:47:23.5	19.215	3.839	3.098	2.386	1.167	0.433	1.066	g0		
1231	04:22:51.34	+54:45:45.5	18.914	4.177	3.414	2.551	1.208	0.472	1.115	g3 V	2.696	1980.0
1232	04:22:51.80	+54:48:53.9	19.262		3.592	2.725	1.302	0.464	1.258	g2-g5		
1233	04:22:51.99	+54:51:10.6	19.284	4.023	3.252	2.301	1.188	0.470	1.011	f5		
1234	04:22:52.00	+54:49:38.5	17.524	4.267	3.376	2.494	1.229	0.468	1.109	f8 IV-V	3.012	1710.0
1235	04:22:52.32	+54:51:41.7	19.556		2.621	2.385	1.165	0.437	1.061	f-g		
1236	04:22:52.45	+54:46:26.3	19.373	3.662	2.998	2.257	1.111	0.431	0.980	g0		
1237	04:22:52.85	+54:49:53.7	15.270	4.093	3.127	2.153	1.066	0.369	0.962	f0 IV:		
1238	04:22:52.86	+54:49:09.2	17.367	4.522	3.379	2.303	1.112	0.421	0.948	a5, mr:		
1239	04:22:52.89	+54:47:06.4	19.228	4.012	3.026	2.183	1.080	0.377	1.003	f-g		
1240	04:22:52.91	+54:56:36.7	17.960	4.379	3.316	2.288	1.123	0.426	0.991	a7, mr:		
1241	04:22:53.08	+54:49:58.6	17.427	4.076	3.145	2.137	1.042	0.386		a5: **		
1242	04:22:53.13	+54:50:15.6	18.398	4.067	3.390	2.496	1.198	0.431	1.146	g5 V:		
1243	04:22:53.16	+54:46:30.5	19.276			2.923	1.263	0.628	1.205	k3 V	2.342	1170.0
1244	04:22:53.37	+54:55:23.3	17.693	4.603	3.864	2.778	1.259	0.502	1.192	k0 V	2.575	700.0
1245	04:22:53.44	+54:51:52.2	19.235	4.180	3.114	2.299	1.099	0.392	1.043	g		
1246	04:22:53.77	+54:53:51.2	16.639	4.858	4.063	2.857	1.326	0.501	1.220	g		
1247	04:22:53.84	+54:47:27.4	19.663		3.068	2.315	1.122	0.402	1.008	g		
1248	04:22:54.17	+54:56:26.4	19.196			3.022	1.344	0.574	1.330	k2 V	2.762	1020.0
1249	04:22:54.47	+54:46:00.6	18.632	3.743	3.020	2.238	1.098	0.398	1.062	g0 V	2.363	2480.0
1250	04:22:54.53	+54:49:27.0	19.198	3.859	3.342	2.559	1.273	0.559	1.144			
1251	04:22:54.60	+54:47:05.0	17.412	4.200		2.585	1.260	0.546		g		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1252	04:22:54.64	+54:53:39.7	18.426	3.791	3.033	2.166	1.065	0.384	0.958	f5 V	2.517	3030.0
1253	04:22:54.70	+54:45:31.8	19.494		3.189	2.314	1.141	0.422	1.041	f5		
1254	04:22:54.79	+54:44:46.0	15.387	4.308	3.463	2.547	1.247	0.454	1.131	f9 IV	3.066	820.0
1255	04:22:54.83	+54:51:33.6	19.014	4.336:	3.302	2.323	1.148	0.381	1.079	f0		
1256	04:22:55.58	+54:51:55.4	19.725		3.324:	2.477	1.211	0.332	1.145			
1257	04:22:55.66	+54:45:42.8	18.739	3.888	3.160	2.266	1.153	0.393	1.077	f5 V	2.883	2960.0
1258	04:22:55.79	+54:49:58.9	18.075	4.558	3.676	2.645	1.289	0.485	1.181	g		
1259	04:22:55.94	+54:44:30.6	18.924	4.204	3.338	2.525	1.310	0.498	1.118	f5 **	3.536	2390.0
1260	04:22:56.15	+54:55:04.7	19.010		3.585	2.674	1.270	0.479	1.198	g6 V	2.87	1560.0
1261	04:22:56.24	+54:53:37.5	18.682	3.895	3.159	2.336	1.111	0.413	1.029	g0 V	2.417	2470.0
1262	04:22:56.25	+54:48:07.3	19.027	4.322:	3.319	2.314	1.148	0.405	1.039	f2 IV	3.112	5290.0
1263	04:22:56.41	+54:45:20.1	19.637		3.138	2.362	1.149	0.402	1.019	f8 V	2.658	3940.0
1264	04:22:56.42	+54:55:50.6	17.663	4.638	3.692	2.753	1.347	0.476	1.254	g5 III, md:		
1265	04:22:56.50	+54:48:48.2	19.195		3.231	2.289	1.097	0.418	0.985	f-g		
1266	04:22:56.60	+54:46:45.8	19.100	4.031:	3.209	2.369	1.174	0.385	1.401	f		
1267	04:22:56.61	+54:48:59.1	15.773	4.400	3.616	2.613	1.265	0.460	1.151	g3 IV-V	2.933	630.0
1268	04:22:56.89	+54:47:48.4	17.782	4.830	3.972	2.971	1.280	0.673	1.338	k-m V		
1269	04:22:57.35	+54:52:10.0	17.022	4.268	3.339	2.441	1.223	0.430	1.097	f6 IV	3.132	1840.0
1270	04:22:57.42	+54:46:46.0	14.113	3.819	2.878	1.835	0.864	0.295	0.781	a6 III	2.513	1410.0
1271	04:22:57.46	+54:47:40.1	17.738	4.084	3.046	1.957	1.003	0.361	0.849	a5 IV	3.091	4670.0
1272	04:22:57.64	+54:53:25.0	19.437		3.334	2.370	1.215	0.454	1.047	f1 V	3.515	4120.0
1273	04:22:57.68	+54:53:30.9	19.404		3.146	2.275	1.164	0.463	0.979	f5 V	2.929	3940.0
1274	04:22:58.02	+54:46:57.8	18.906	3.897	3.135	2.237	1.101	0.438	1.054	f8 IV-V	2.479	4120.0
1275	04:22:58.05	+54:51:14.9	17.840	4.508	3.487	2.549	1.304	0.481	1.090	f3 **	3.677	1900.0
1276	04:22:58.10	+54:51:23.7	14.294	3.139	2.616	1.813	0.817	0.309	0.782	g3 V	1.069	500.0
1277	04:22:58.45	+54:54:19.4	17.512	4.190	3.118	1.960	0.982	0.343	0.835	a4 IV	3.087	4620.0
1278	04:22:58.58	+54:53:43.0	18.782	3.859	3.054	2.219	1.082	0.373	1.004	f5 IV-V	2.588	4350.0
1279	04:22:58.66	+54:44:48.7	19.532			2.544	1.237	0.492	1.095	g2		
1280	04:22:58.72	+54:47:41.9	18.989	3.965	3.299	2.463	1.183	0.430	1.149	g0 V	2.716	2480.0
1281	04:22:58.77	+54:53:11.2	19.700		3.171	2.255	1.135	0.402	0.971	f3 IV-V		
1282	04:22:59.03	+54:49:24.3	18.717	4.252	3.393	2.517	1.233	0.443	1.143	f9 IV	3.008	3910.0
1283	04:22:59.16	+54:47:52.2	18.591	4.007	3.149	2.232	1.138	0.418	1.015	f2 V	3.07	3190.0
1284	04:22:59.29	+54:52:42.3	18.025	4.082	3.261	2.383	1.188	0.411	1.097	f7 V	2.904	1810.0
1285	04:22:59.34	+54:51:35.7	15.630	4.245	3.201	2.153	1.060	0.381	0.955	f0 III	2.954	1800.0
1286	04:22:59.54	+54:51:07.4	19.374		3.547	2.632	1.342	0.531	1.185	f6 V	3.586	2650.0
1287	04:22:59.64	+54:53:31.4	18.078	4.003	3.050	2.133	1.036	0.385	0.921	f3 III		
1288	04:22:59.74	+54:46:21.1	18.577	4.169	3.256	2.397	1.222	0.421	1.123	f5-g0		
1289	04:22:59.88	+54:49:19.5	19.621			2.687	1.303	0.423	1.106			
1290	04:22:59.90	+54:48:36.5	19.164			2.996	1.345	0.542	1.304	k0		
1291	04:22:59.93	+54:55:39.5	18.667	4.488	3.406	2.366	1.125	0.414	1.026	f-g		
1292	04:23:00.19	+54:55:20.6	17.868	4.758	3.737	2.744	1.340	0.483	1.220	f-g		
1293	04:23:00.31	+54:48:52.9	19.156	4.188:	3.171	2.157	1.067	0.353	0.931	a8		
1294	04:23:00.49	+54:45:30.9	19.096	4.259:	3.318	2.305	1.161	0.427	0.997	a7		
1295	04:23:00.87	+54:53:26.5	18.177	3.909	3.058	2.185	1.101	0.386	0.999	f3 IV-V	2.833	3270.0
1296	04:23:01.20	+54:46:28.5	19.441			2.673	1.292	0.509	1.102	g4		
1297	04:23:01.21	+54:46:36.7	17.107	4.612	3.769	2.739	1.217	0.559	1.353	k-m V		
1298	04:23:01.36	+54:45:30.2	17.239	4.306	3.112	1.980	0.992	0.356	0.864	a-f		
1299	04:23:01.47	+54:48:54.5	19.438			2.764	1.396	0.550	1.154	f-g		
1300	04:23:02.20	+54:55:52.3	18.238	4.815	4.232	2.999	1.403	0.582	1.371	k1 V	3.132	630.0
1301	04:23:02.30	+54:46:40.1	17.873	4.666	3.790	2.778	1.336	0.513	1.224	g2 IV	3.27	2190.0
1302	04:23:02.32	+54:45:36.4	17.085		3.407	2.484	1.244	0.454	1.120	f7 **		
1303	04:23:02.58	+54:46:56.7	18.736		3.911	2.805	1.405	0.489	1.289	a-f		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1304	04:23:02.63	+54:48:17.0	19.068	4.161	3.487	2.506	1.229	0.451	1.124	g		
1305	04:23:02.91	+54:53:20.3	17.001	4.779	3.995	2.910	1.205	0.613	1.345	m2 V	0.354	223.6
1306	04:23:03.91	+54:46:58.4	19.423			2.742	1.361	0.525	1.225	g0		
1307	04:23:04.25	+54:50:21.9	19.141	4.274:	3.869	2.816	1.401	0.550	1.240	g		
1308	04:23:04.32	+54:52:32.4	19.573			2.595	1.313	0.525	1.122	f-g		
1309	04:23:04.73	+54:47:10.9	19.452			2.381	1.164	0.456	0.960	f-g		
1310	04:23:05.02	+54:45:47.2	18.413	4.332	3.256	2.263	1.149	0.409	1.001	f2 III	3.116	5240.0
1311	04:23:05.14	+54:46:42.7	17.823			4.077	1.868	0.742	1.685	k1 III-IV	4.484	1940.0
1312	04:23:05.15	+54:51:16.0	17.264	4.380	3.606	2.611	1.264	0.471	1.165	g3 IV-V	2.929	1260.0
1313	04:23:05.21	+54:46:24.2	19.220		3.401	2.600	1.330	0.481	1.173	f8-g0 V		
1314	04:23:05.40	+54:56:23.9	17.231	4.861	4.094	2.876	1.317	0.522	1.298	k0 V	2.816	500.0
1315	04:23:05.64	+54:45:59.8	18.080	4.207	3.356	2.434	1.232	0.434	1.098	f5 V	3.212	1880.0
1316	04:23:05.75	+54:52:06.8	19.325	4.013:	3.268	2.311	1.159	0.398	0.998	f		
1317	04:23:06.22	+54:48:09.2	15.830	3.453	2.969	2.028	0.868	0.363	0.835	g9 V	0.99	670.0
1318	04:23:06.55	+54:52:39.3	18.874	4.361	3.532	2.594	1.307	0.485	1.177	f7 V	3.399	2130.0
1319	04:23:06.59	+54:49:04.8	18.418	4.592	3.614	2.662	1.300	0.466	1.230	g0 IV	3.203	3040.0
1320	04:23:06.64	+54:56:02.1	19.419			3.046	1.445	0.576	1.370	g		
1321	04:23:06.92	+54:48:24.5	16.925	3.511	2.665	1.836	0.951	0.348	0.841			
1322	04:23:07.05	+54:52:45.1	17.592		4.920	3.523	1.606	0.624	1.461	k0 III	3.478	4820.0
1323	04:23:07.20	+54:52:59.6	19.114		3.089	2.588	1.305	0.461	1.202			
1324	04:23:07.50	+54:45:26.0	16.636	4.078	3.491	2.441	1.019	0.571	1.062	k3 V	1.327	550.0
1325	04:23:08.09	+54:46:06.3	18.460	4.455	3.385	2.393	1.229	0.470	1.102	a-f **		
1326	04:23:08.49	+54:54:28.6	19.051		3.883:	2.999	1.374	0.571	1.296	k0-k2		
1327	04:23:08.64	+54:54:40.2	19.326		3.297	2.471	1.203	0.429	1.097	g		
1328	04:23:08.71	+54:51:48.7	18.901			3.010	1.422	0.542	1.337	g8 IV-V	3.295	1830.0
1329	04:23:09.19	+54:46:52.2	18.882	4.164	3.253	2.213	1.109	0.380	0.993	a9 V	3.282	3980.0
1330	04:23:09.25	+54:44:30.0	16.455	4.720	3.912	2.852	1.238	0.593	1.332	k2 V	2.321	352.2
1331	04:23:09.29	+54:44:50.5	19.201	3.598:	3.090	2.271	1.307	0.500	1.031			
1332	04:23:09.34	+54:50:30.0	17.748	5.016	3.901	2.731	1.348	0.487	1.215	a-f		
1333	04:23:09.57	+54:54:34.3	19.254			3.197	1.546	0.580	1.443	g		
1334	04:23:10.01	+54:51:18.9	19.166			3.122	1.421	0.595	1.370	k2 V	3.083	860.0
1335	04:23:10.15	+54:45:26.8	14.616	3.874	2.939	1.886	0.911	0.325	0.781	a5 V, mr:		
1336	04:23:10.23	+54:49:03.2	17.524	5.506	4.646	3.370	1.574	0.610	1.452	k0 IV	3.636	1440.0
1337	04:23:10.43	+54:50:47.8	17.828	4.833	3.686	2.718	1.355	0.494	1.204	f-g		
1338	04:23:10.66	+54:45:37.8	17.918	4.138	3.092	1.992	1.016	0.339	0.872	a2 V	3.395	4620.0
1339	04:23:10.89	+54:51:52.7	16.874	4.780	3.941	2.884	1.389	0.518	1.288	g3 IV-V	3.449	830.0
1340	04:23:10.90	+54:52:12.2	18.637	4.421	3.335	2.223	1.102	0.392	0.939	a6 IV		
1341	04:23:11.34	+54:53:42.9	17.473	4.689	3.828	2.830	1.351	0.501	1.282	g2 V	3.291	830.0
1342	04:23:12.31	+54:46:31.8	18.166		4.599	3.346	1.603	0.659	1.466	k0 V	4.006	448.7
1343	04:23:12.39	+54:52:40.2	16.889	5.310	4.351	3.169	1.503	0.560	1.399	g **		
1344	04:23:12.64	+54:51:46.5	19.624		3.388:	2.402	1.220	0.392	1.032	f		
1345	04:23:13.39	+54:45:24.7	18.922	4.174	3.342	2.437	1.246	0.435	1.137	f6 V	3.187	2590.0
1346	04:23:13.47	+54:52:36.6	18.222	4.947	4.028	2.928	1.377	0.539	1.290	g5		
1347	04:23:13.48	+54:45:02.3	17.707	5.049	4.281	3.064	1.218	0.729	1.304	k-m V		
1348	04:23:13.88	+54:47:44.3	17.590	4.310	3.293	2.123	1.052	0.364	0.884	a4 IV	3.378	4190.0
1349	04:23:14.15	+54:50:53.7	19.148	4.212:	3.378	2.547	1.261	0.501	1.159	f9		
1350	04:23:14.53	+54:52:02.9	17.173	4.244	3.454	2.562	1.235	0.459	1.170	g1 V	2.891	930.0
1351	04:23:14.59	+54:49:22.6	19.279			2.789	1.376	0.513	1.196	g0-g5		
1352	04:23:14.59	+54:45:07.7	18.974		3.841	2.745	1.564	0.783	1.228	**		
1353	04:23:14.67	+54:51:28.3	18.192		4.468	3.361	1.593	0.600	1.467	g8 IV	3.923	1710.0
1354	04:23:14.78	+54:48:27.6	17.820	5.072	4.343	3.155	1.331	0.724	1.387	k-m V		
1355	04:23:15.12	+54:56:10.6	17.612	4.780	3.735	2.762	1.395	0.526	1.286	f6 III-IV	3.848	1980.0

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1356	04:23:15.29	+54:49:10.0	19.473			2.706	1.360	0.537	1.198	g0 V	3.453	2210.0
1357	04:23:15.95	+54:49:04.8	19.543		3.384:	2.589	1.302	0.533	1.046	f-g		
1358	04:23:16.20	+54:46:46.5	14.270	3.139	2.596	1.765	0.816	0.281	0.721	f9 IV-V	1.252	820.0
1359	04:23:16.25	+54:53:39.4	17.501	4.910	3.778	2.646	1.296	0.460	1.192	a-f		
1360	04:23:16.57	+54:52:30.9	19.584			2.782	1.369	0.479	1.125	g0		
1361	04:23:16.78	+54:50:31.8	17.323	4.477	3.666	2.667	1.284	0.510	1.168	g5 IV-V	2.929	1200.0
1362	04:23:16.97	+54:46:31.0	15.976	4.765	4.135	2.843	1.071	0.670	1.112	k-m V		
1363	04:23:17.05	+54:55:45.1	19.186		3.793:	2.741	1.395	0.514	1.287	f2		
1364	04:23:17.21	+54:50:21.8	17.880	5.303:	4.382	3.232	1.544	0.601	1.381	g7 III-IV	3.657	2850.0
1365	04:23:17.59	+54:47:43.6	18.871	4.470:	3.497	2.529	1.267	0.479	1.112	f3 IV	3.524	3940.0
1366	04:23:17.72	+54:50:33.2	17.932	4.440	3.318	2.217	1.145	0.465	0.914	a5 **		
1367	04:23:18.02	+54:50:06.3	19.396		3.342:	2.664	1.309	0.471	1.170	g0		
1368	04:23:18.02	+54:47:46.7	19.553			2.702	1.322	0.494	1.278	g2		
1369	04:23:18.72	+54:47:33.2	17.854	5.039	4.201	3.052	1.455	0.539	1.335	g7 III-IV	3.286	3340.0
1370	04:23:18.86	+54:55:09.9	18.627		4.244:	3.080	1.521	0.580	1.427	g5 V	3.956	860.0
1371	04:23:18.88	+54:44:58.9	17.839	4.768	3.923	2.892	1.405	0.513	1.302	g3 V	3.515	830.0
1372	04:23:19.21	+54:46:42.3	14.744	3.222	2.577	1.889	0.988	0.334	0.847	f5 V, md:		
1373	04:23:19.69	+54:53:01.1	19.091			3.382	1.357	0.759	1.427	k6 V	2.109	750.0
1374	04:23:20.26	+54:45:16.0	18.687	4.230	3.478	2.619	1.233	0.470	1.222	g5 V	2.758	1530.0
1375	04:23:20.33	+54:51:12.4	15.861	3.423	2.717	1.957	1.021	0.355	1.039	f5 V, md:		
1376	04:23:20.55	+54:50:10.6	15.815	4.200	3.283	2.238	1.051	0.379	0.887	a-f		
1377	04:23:21.30	+54:47:06.7	18.209	5.082:	4.365	3.243	1.490	0.869	1.409	k-m V **		
1378	04:23:21.99	+54:49:44.1	19.586			2.497	1.275	0.480	1.093	f0		
1379	04:23:22.25	+54:47:20.2	19.546		3.479:	2.440	1.165	0.446	0.970			
1380	04:23:22.40	+54:51:21.0	19.415		3.234	2.449	1.285	0.484	1.099	f-g		
1381	04:23:22.81	+54:52:45.9	14.130	3.603	2.968	2.055	0.914	0.348	0.877	g3 IV-V	1.473	580.0
1382	04:23:23.26	+54:49:33.4	19.265		3.311	2.535	1.238	0.439	1.155	f-g		
1383	04:23:23.29	+54:47:50.6	18.191	4.777	3.946	2.866	1.359	0.504	1.275	g5 IV	3.199	2500.0
1384	04:23:23.31	+54:53:06.0	19.386		3.625:	2.651	1.291	0.479	1.180	g		
1385	04:23:23.33	+54:50:41.6	19.205		3.810:	2.801	1.386	0.516	1.250	g		
1386	04:23:23.86	+54:49:21.8	18.880	4.001	3.254	2.360	1.172	0.461	1.050	f8 V	2.754	2660.0
1387	04:23:24.02	+54:51:59.9	19.343		3.418:	2.857	1.365	0.593	1.184			
1388	04:23:24.04	+54:48:03.0	18.064	3.965	3.162	2.213	1.091	0.381	0.986	f5 V:		
1389	04:23:24.26	+54:48:40.0	19.143	4.179:	3.267	2.538	1.258	0.491	1.088	f-g		
1390	04:23:24.96	+54:44:34.7	19.392			2.666	1.360	0.538	1.148	f		
1391	04:23:25.14	+54:52:44.5	16.150	4.534	3.470	2.430	1.170	0.444	1.088	a5, mr:		
1392	04:23:25.24	+54:45:11.7	18.552	4.870:	3.542	2.376	1.208	0.448	1.009			
1393	04:23:25.57	+54:51:15.7	16.572	4.217	3.684	2.481	1.006	0.541	1.012	k3 V	1.273	550.0
1394	04:23:25.94	+54:53:27.8	16.116	6.104	5.051	3.717	1.744	0.666	1.612	k0 III-IV	4.197	1010.0
1395	04:23:26.92	+54:50:43.5	19.492			2.669	1.339	0.582	1.162	f-g		
1396	04:23:27.46	+54:47:45.4	18.466	4.813:	3.624	2.489	1.224	0.427	1.081	a6 III:		
1397	04:23:27.46	+54:49:11.3	18.711	4.272	3.472	2.576	1.260	0.485	1.201	g1 V	2.995	1790.0
1398	04:23:28.23	+54:49:51.5	19.342			2.858	1.384	0.560	1.284	g		
1399	04:23:28.38	+54:46:36.4	13.135	2.951	2.413	1.684	0.770	0.280	0.710	f8 V	1.082	408.0
1400	04:23:28.46	+54:50:34.2	18.490	4.428	3.585	2.539	1.326	0.606	1.171	**		
1401	04:23:28.75	+54:50:29.1	15.914	5.018	4.064	2.973	1.435	0.589	1.305	g		
1402	04:23:29.56	+54:45:16.5	18.211	4.553	3.551	2.581	1.311	0.475	1.151	f2 IV	3.79	2660.0
1403	04:23:29.73	+54:44:52.5	15.842	3.890	3.387	2.264	0.925	0.460	0.873	k2 V	1.019	483.7
1404	04:23:30.36	+54:51:05.1	17.755	4.175	3.159	2.108	1.029	0.353	0.894	a7 IV	3.074	4130.0
1405	04:23:30.69	+54:49:33.8	18.180	4.480	3.432	2.282	1.116	0.425	0.943	a5, mr:		
1406	04:23:30.79	+54:46:38.3	18.632		3.810	2.710	1.361	0.470	1.201	f0 IV:		
1407	04:23:30.99	+54:47:52.3	17.260	4.972	3.801	2.629	1.296	0.484	1.153	a5, mr:		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1408	04:23:32.28	+54:45:31.2	18.832			3.558	1.576	0.792	1.533	k-m V		
1409	04:23:32.53	+54:49:36.9	15.322	6.322	5.395	3.902	1.784	0.712	1.614	k1 III-IV	4.135	720.0
1410	04:23:32.57	+54:46:38.9	19.188		3.666	2.752	1.400	0.516	1.204	f8 V	3.702	1980.0
1411	04:23:32.68	+54:48:22.6	19.030		3.846:	2.815	1.423	0.585	1.164	f-g		
1412	04:23:32.92	+54:48:11.1	17.305	4.755	3.441	2.299	1.161	0.400	1.009	f0		
1413	04:23:33.17	+54:48:20.7	18.458	4.546	3.527	2.428	1.232	0.510	1.023	a-f		
1414	04:23:33.35	+54:50:35.3	17.105	5.297	4.305	3.168	1.520	0.603	1.398	g		
1415	04:23:33.39	+54:54:25.3	16.353	5.108	4.297	3.009	1.338	0.588	1.305	k2.5 V		
1416	04:23:34.07	+54:46:57.8	18.231	4.724	3.771	2.793	1.378	0.497	1.268	g0 III-IV		
1417	04:23:34.38	+54:46:47.0	18.655			3.699	1.764	0.663	1.603	g9 III-IV	4.385	2950.0
1418	04:23:34.92	+54:46:27.7	17.895	5.154	4.392	3.163	1.234	0.785	1.267	k-m V		
1419	04:23:35.68	+54:49:24.5	19.380		3.475	2.403	1.228	0.389	1.066	a-f		
1420	04:23:35.93	+54:49:18.6	17.417	5.650	4.642	3.406	1.605	0.617	1.474	g8 III-IV	3.827	2130.0
1421	04:23:35.99	+54:45:55.7	18.888			3.491	1.682	0.665	1.499	g9 IV:		
1422	04:23:36.09	+54:45:34.1	18.744		3.859	2.874	1.447	0.558	1.315	g0 V	3.815	1340.0
1423	04:23:36.24	+54:48:04.6	19.528			2.890	1.434	0.529	1.315	g1 V	3.719	1870.0
1424	04:23:36.53	+54:47:48.9	19.241			2.780	1.424	0.510	1.243	f5 V	4.01	2220.0
1425	04:23:36.61	+54:45:40.3	19.479			2.651	1.321	0.524	1.132	g0 V	3.291	2390.0
1426	04:23:36.76	+54:48:06.0	19.305			2.947	1.446	0.562	1.334	g5 V	3.644	1360.0
1427	04:23:36.84	+54:54:45.6	16.594	5.130	3.905	2.667	1.306	0.500	1.170			
1428	04:23:36.87	+54:48:18.4	18.668		3.656	2.506	1.251	0.434	1.053	a6 V	4.123	3230.0
1429	04:23:38.28	+54:51:36.4	18.699			3.252	1.537	0.584	1.443	g9 IV	3.607	2500.0
1430	04:23:38.99	+54:45:54.6	15.199	4.863	3.756	2.666	1.315	0.502	1.198	a5, mr:		
1431	04:23:39.05	+54:46:59.0	17.453	4.845	3.835	2.830	1.430	0.533	1.283	f8 IV	3.869	1500.0
1432	04:23:39.45	+54:51:47.8	18.628	4.527:	3.793	2.743	1.319	0.542	1.219	g7 V	2.991	1150.0
1433	04:23:39.62	+54:52:10.2	18.754	4.605:	3.831	2.702	1.341	0.568	1.264	g		
1434	04:23:40.50	+54:46:51.7	18.870			3.495	1.741	0.727	1.549	g-k		
1435	04:23:41.05	+54:49:27.9	14.727	3.468	2.832	1.994	0.917	0.357	0.862	g2 V	1.485	540.0
1436	04:23:41.49	+54:52:28.2	19.181			3.045	1.466	0.621	1.361	g9 V:		
1437	04:23:41.62	+54:46:41.2	19.362			2.841	1.417	0.533	1.268	g		
1438	04:24:12.06	+54:58:33.2	16.471	6.648		4.563	1.998	0.855	1.868	k5-m0 III		
1439	04:24:12.59	+54:53:30.9	18.603	4.523:		3.229	1.617	0.599	1.596	g2 V	4.397	830.0
1440	04:24:13.97	+54:58:00.3	15.818	6.241	5.328	3.844	1.717	0.696	1.583	k2 III-IV		
1441	04:24:17.87	+54:59:34.7	18.490	4.559	3.839	2.910	1.450	0.528	1.316	g0 V	3.827	1180.0
1442	04:24:19.51	+54:56:31.1	19.369		3.509	2.691	1.339	0.529	1.265	f8		
1443	04:24:19.95	+54:56:47.5	18.818	4.264	3.283	2.146	1.064	0.363	0.940	a6 V	3.345	4950.0
1444	04:24:20.42	+54:56:41.7	17.210	4.215	3.384	2.495	1.222	0.446	1.152	f9 IV-V	2.941	1460.0
1445	04:24:21.26	+54:56:15.3	19.353		3.605:	2.723	1.378	0.509	1.261	f8		
1446	04:24:21.38	+54:58:32.0	17.199	6.187:	5.322	3.799	1.656	0.782	1.488	k5 V:		
1447	04:24:22.80	+54:57:19.0	17.282	4.396	3.308	2.252	1.094	0.387	0.978	f0 III	3.095	3610.0
1448	04:24:23.01	+54:56:21.1	19.390			2.904	1.393	0.541	1.336	g8		
1449	04:24:26.10	+54:57:09.3	19.425		1.570	2.489	1.243	0.490	1.094			
1450	04:24:26.42	+54:57:10.6	19.444			2.759	1.331	0.529	1.285	g		
1451	04:24:27.36	+54:58:53.1	16.288	4.677	3.857	2.838	1.350	0.529	1.239	g7 V	3.12	369.5
1452	04:24:27.43	+55:12:50.8	18.826		3.022	2.302	1.178	0.505	0.845	f		
1453	04:24:27.67	+55:11:23.6	18.432		4.295:	3.075	1.426	0.540	1.254	g5-k0		
1454	04:24:28.21	+54:57:12.0	17.688	4.363	3.450	2.547	1.240	0.460	1.203	f **		
1455	04:24:28.53	+54:57:39.2	18.757	4.145	3.378	2.488	1.256	0.460	1.125	f8 V	3.103	2140.0
1456	04:24:28.74	+54:59:44.3	19.188			3.008	1.471	0.497	1.382	g		
1457	04:24:28.76	+55:11:51.5	19.077			2.998	1.487	0.631	1.222	g		
1458	04:24:29.01	+54:59:15.7	18.503	4.715	3.926	2.946	1.474	0.573	1.325	g2 V	3.802	1050.0
1459	04:24:29.20	+55:07:29.3	19.451			2.589	1.211	0.401	1.178	g		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1460	04:24:29.51	+54:57:05.8	19.182			3.122	1.462	0.581	1.397	g		
1461	04:24:29.75	+55:06:59.6	18.880			3.235	1.562	0.596	1.472	g8 V	3.96	770.0
1462	04:24:29.83	+55:09:12.3	17.621	4.255	3.247	2.243	1.108	0.399	0.967	f2 III	2.945	3940.0
1463	04:24:30.03	+55:09:48.1	18.914		4.018:	3.033	1.398	0.551	1.362	g8 V	3.278	1060.0
1464	04:24:30.57	+55:08:26.3	19.070		3.815:	2.660	1.405	0.581	1.257	a **		
1465	04:24:30.71	+54:59:37.3	18.081			3.864	1.765	0.722	1.637	k2 III-IV		
1466	04:24:30.90	+55:10:40.0	18.024	4.577	3.836	2.829	1.371	0.498	1.204	g5 V	3.332	870.0
1467	04:24:31.19	+55:06:46.6	17.367			4.166	1.912	0.773	1.786	k1.5 IV		
1468	04:24:31.29	+55:09:49.7	15.236		7.072	5.278	2.347	0.901	2.159	k-m		
1469	04:24:31.80	+54:56:14.1	19.426			2.785	1.403	0.539	1.288	f9 V	3.673	2090.0
1470	04:24:31.82	+55:11:52.8	16.788	3.511	2.568	1.581	0.784	0.278	0.650	a5 IV	2.18	4590.0
1471	04:24:32.08	+54:58:40.5	12.961	5.573	4.672	3.389	1.551	0.600	1.373	g9 III	3.332	600.0
1472	04:24:32.24	+54:57:10.9	18.777		3.705	2.715	1.358	0.541	1.199	g2 V	3.32	1480.0
1473	04:24:32.25	+55:07:32.1	19.681			2.824	1.422	0.518	1.292	g0 V	3.711	2160.0
1474	04:24:32.31	+54:55:37.3	16.119	4.569	3.826	2.780	1.180	0.655	1.274	k-m V		
1475	04:24:32.58	+55:09:01.2	18.078	4.609	3.717	2.766	1.333	0.495	1.225	g1 III		
1476	04:24:32.82	+55:05:27.2	19.509			3.099	1.545	0.579	1.392	g3 V	4.098	1370.0
1477	04:24:32.84	+55:09:16.2	18.119	4.241	3.136	2.066	1.046	0.357	0.889	a6 IV	3.228	4880.0
1478	04:24:32.85	+55:12:13.3	18.992	3.791	2.925	1.824	0.986	0.366	0.753	a0 V		
1479	04:24:32.86	+54:57:00.7	17.513	5.308	4.504	3.188	1.430	0.642	1.416	k3 V	3.037	376.1
1480	04:24:32.89	+55:09:37.2	18.436	4.446:	3.613	2.704	1.352	0.501	1.237	f9 V	3.461	1460.0
1481	04:24:32.99	+54:57:37.8	18.945		3.483	2.441	1.220	0.426	1.098	f3 IV	3.328	4460.0
1482	04:24:33.04	+55:08:35.8	17.815	4.304	3.309	2.472	1.249	0.438	1.120	g5 III, md:		
1483	04:24:33.14	+55:08:55.7	17.292	4.171	3.370	2.522	1.239	0.476	1.083	f9 V	2.991	1070.0
1484	04:24:33.30	+55:09:34.7	19.602			2.632	1.308	0.496	1.120	f-g		
1485	04:24:33.43	+55:10:28.3	18.669	4.282:	3.962	2.883	1.340	0.635	1.216			
1486	04:24:33.56	+55:12:16.4	16.273	3.316	2.423	1.497	0.768	0.247	0.601	a1 V	2.404	3750.0
1487	04:24:34.23	+55:10:08.1	19.573		3.256	2.450	1.231	0.455	1.071	f8 V:		
1488	04:24:34.25	+55:10:57.9	13.909	3.812	3.216	2.232	0.990	0.416	0.899	g9 V	1.498	219.9
1489	04:24:34.26	+55:10:03.1	19.828			2.620	1.289	0.491	1.117	g2 IV-V	3.053	4030.0
1490	04:24:34.45	+55:07:31.6	19.471			2.521	1.259	0.475	1.146	f8 V	3.116	2960.0
1491	04:24:34.56	+55:12:40.5	17.743	4.442	3.742	2.605	1.185	0.519	1.069	k0 V	2.267	820.0
1492	04:24:35.05	+55:11:21.7	18.229	3.894	2.973	2.096	1.029	0.347	0.903	a7-f2 III		
1493	04:24:35.29	+55:10:59.3	17.301	3.928	3.126	2.245	1.160	0.421	0.966	f3 V	3.078	1620.0
1494	04:24:35.40	+55:09:53.2	16.961	4.524	3.486	2.460	1.203	0.433	1.054	f0 IV	3.632	1760.0
1495	04:24:35.48	+55:11:40.4	18.232	3.956	2.989	1.899	0.935	0.322	0.795	a5 V	2.808	5310.0
1496	04:24:35.57	+55:11:29.2	18.835	3.768	2.938	2.012	1.081	0.370	0.944	b9 V		
1497	04:24:35.77	+54:57:40.3	19.147		3.581	2.415	1.180	0.459	1.031	a		
1498	04:24:35.87	+55:11:33.1	16.926	3.759	3.030	2.176	1.061	0.389	0.923	f8 IV	2.334	2390.0
1499	04:24:36.13	+55:07:53.0	19.608			2.539	1.295	0.474	1.147	f		
1500	04:24:36.13	+55:09:16.9	17.211	4.119	3.125	2.065	1.030	0.372	0.853	a7 V	3.162	2340.0
1501	04:24:36.71	+55:11:37.0	18.433	4.146	3.595	2.508	1.192	0.442	1.084	g5 V:		
1502	04:24:36.78	+55:10:52.9	19.281			3.066	1.297	0.768	1.301	k-m V		
1503	04:24:36.88	+55:10:49.2	15.954	3.985	3.004	1.990	0.949	0.350	0.794	f0 III	2.492	2580.0
1504	04:24:37.18	+54:58:47.0	18.668		3.580	2.419	1.201	0.454	1.048	a5 V, mr:		
1505	04:24:37.21	+54:56:37.7	18.383			3.561	1.670	0.705	1.568	k2 V	4.118	374.1
1506	04:24:37.31	+55:11:35.5	18.337	3.839	2.958	1.846	0.921	0.341	0.685	a4 V		
1507	04:24:37.33	+54:56:23.5	18.143	4.894	4.003	3.029	1.291	0.684	1.368	m2 V	0.711	320.9
1508	04:24:37.57	+54:55:12.9	19.033		3.722	2.556	1.278	0.501	1.154	a		
1509	04:24:37.59	+55:12:24.1	16.199	4.122	3.494	2.454	1.049	0.484	0.990	k1 V	1.66	487.4
1510	04:24:37.74	+55:12:18.8	19.458		3.041	2.140	1.107	0.519	0.892			
1511	04:24:38.05	+54:59:00.4	17.131	4.323	3.265	2.142	1.038	0.409	0.889	a5 IV, mr:		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1512	04:24:38.13	+55:11:01.1	16.254	3.567	2.862	2.113	1.039	0.375	0.893	f7 V	2.284	1070.0
1513	04:24:38.66	+55:12:40.1	15.847	2.749	2.109	1.392	0.720	0.236	0.582	a **		
1514	04:24:38.89	+55:12:52.1	18.450	3.683	2.970	2.160	1.083	0.370	0.943	f7 V	2.467	2700.0
1515	04:24:38.89	+54:58:02.0	19.512			2.732	1.361	0.548	1.161	g0-g2		
1516	04:24:39.09	+55:10:40.9	19.073	3.943	3.336	2.462	1.224	0.454	1.201	f-g		
1517	04:24:39.51	+55:09:20.0	17.193	5.471	4.450	3.320	1.525	0.575	1.421	g2		
1518	04:24:39.65	+55:12:01.1	20.010			2.599	1.255	0.551	1.344			
1519	04:24:39.67	+55:10:35.9	16.206	4.058	3.015	1.975	0.938	0.343	0.777	a6 IV, mr:		
1520	04:24:39.76	+55:06:28.9	18.070			3.661	1.669	0.660	1.558	k1 III-IV	3.657	3180.0
1521	04:24:39.84	+55:10:08.9	17.010	3.957	3.097	2.231	1.115	0.401	0.958	f5 IV-V	2.725	1810.0
1522	04:24:40.16	+55:11:09.2	17.013	3.807	2.960	2.106	1.034	0.380	0.895	f5 IV	2.388	2660.0
1523	04:24:40.27	+55:07:19.4	19.607			2.820	1.377	0.508	1.260	g3 V	3.399	1980.0
1524	04:24:40.52	+55:07:11.6	19.736			2.668	1.369	0.544	1.286	f-g		
1525	04:24:40.77	+55:06:33.2	18.324			3.452	1.633	0.656	1.522	k1 V	4.089	423.6
1526	04:24:41.01	+55:12:02.8	19.898		3.093	2.477	1.218	0.489	0.972			
1527	04:24:41.12	+55:11:26.1	19.632		3.102	2.325	1.267	0.639				
1528	04:24:41.52	+55:11:23.9	16.495	3.871	3.012	2.163	1.062	0.387	0.910	f6 III-IV	2.463	2240.0
1529	04:24:41.78	+55:08:39.7	17.313	4.729	3.807	2.817	1.336	0.505	1.237	g3 IV	3.228	1700.0
1530	04:24:41.87	+55:00:14.4	18.994		3.755	2.794	1.393	0.500	1.297	f9 IV-V	3.652	2390.0
1531	04:24:41.90	+55:12:34.3	18.872	3.743	2.883	2.082	1.051	0.362	0.918	f5 IV		
1532	04:24:42.40	+54:53:55.7	13.802	4.071	3.626	2.452	0.868	0.602	0.959	k5 V	0.366	176.7
1533	04:24:42.46	+55:08:30.6	19.347		3.534	2.599	1.286	0.491	1.117	f9 IV-V	3.207	3450.0
1534	04:24:42.52	+55:06:09.1	18.429		4.019	2.813	1.411	0.515	1.296			
1535	04:24:42.73	+55:10:35.3	17.333	4.553	3.749	2.720	1.257	0.468	1.146	g5 III		
1536	04:24:42.73	+55:11:35.9	19.515		3.168	2.387	1.221	0.475	1.012	f7		
1537	04:24:43.31	+55:09:23.9	19.266		3.063	2.195	1.132	0.391	1.018	f5 V	2.796	3930.0
1538	04:24:43.33	+55:10:48.4	18.654	3.980	3.174	2.334	1.130	0.395	1.037	f7 IV	2.662	4700.0
1539	04:24:43.35	+55:10:32.6	19.003		3.924	2.856	1.249	0.613	1.196	k2 V	2.367	1110.0
1540	04:24:43.55	+55:11:15.1	20.066			2.325	1.145	0.401	1.114	f6 V	2.766	5320.0
1541	04:24:43.99	+55:09:59.8	19.884			2.287	1.150	0.355	1.060	a-f		
1542	04:24:44.03	+55:07:56.5	19.012		3.442	2.682	1.364	0.496	1.199	g0		
1543	04:24:44.06	+55:07:40.0	18.598		3.785	2.814	1.367	0.467	1.294	g		
1544	04:24:44.24	+55:07:44.7	19.714			2.459	1.292	0.497	1.085	a-f		
1545	04:24:44.53	+55:12:59.8	19.574			2.828	1.259	0.562	1.103	k1 V	2.533	1540.0
1546	04:24:44.71	+55:10:51.7	19.437		3.410	2.495	1.259	0.475	1.060	f8 **	3.157	5200.0
1547	04:24:44.72	+55:09:42.0	17.372	4.217	3.388	2.481	1.226	0.459	1.083	f8 IV	3.02	2140.0
1548	04:24:44.98	+55:08:54.7	19.481			2.620	1.299	0.457	1.192	g0 V	3.199	2490.0
1549	04:24:45.00	+55:05:56.8	18.877		3.893	2.807	1.402	0.488	1.318	f		
1550	04:24:45.62	+55:07:53.3	19.430			2.684	1.409	0.618	1.227			
1551	04:24:45.64	+55:07:22.5	19.263		3.628	2.777	1.385	0.480	1.288			
1552	04:24:45.74	+54:56:25.3	18.959			3.645	1.760	0.688	1.626	k0 V	4.659	478.6
1553	04:24:45.95	+55:13:01.3	18.224	3.756	3.055	2.246	1.130	0.406	0.971	f7 V	2.662	2220.0
1554	04:24:46.05	+55:12:24.8	18.976	3.934	3.274	2.419	1.178	0.451	1.015	g0 V	2.696	2490.0
1555	04:24:46.28	+55:12:12.9	18.172	3.806	2.869	1.887	0.943	0.346	0.757	a7 IV-V	2.758	5040.0
1556	04:24:46.47	+55:06:31.0	15.903	4.265	3.414	2.496	1.228	0.431	1.155	f9 IV-V	2.966	790.0
1557	04:24:46.48	+54:56:13.9	18.346		4.026	2.982	1.466	0.569	1.362	g5 V	3.727	840.0
1558	04:24:46.49	+55:11:12.7	18.330	4.073	3.100	2.103	1.043	0.365	0.882	a8 V	3.132	3680.0
1559	04:24:47.26	+55:11:38.2	18.273	4.067	3.278	2.330	1.179	0.496	1.058	f5 V	2.991	2270.0
1560	04:24:47.32	+55:09:38.6	19.385		3.198	2.270	1.168	0.410	0.995	f2 V	3.195	4350.0
1561	04:24:47.34	+54:59:08.0	19.401			3.142	1.523	0.603	1.453	g-k		
1562	04:24:47.57	+55:08:18.9	19.056	3.892	3.343	2.265	1.115	0.384	0.973			
1563	04:24:47.95	+55:06:31.9	17.638	4.971	3.939	2.924	1.423	0.522	1.352	f-g		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	<i>V</i> mag	<i>U-V</i> mag	<i>P-V</i> mag	<i>X-V</i> mag	<i>Y-V</i> mag	<i>Z-V</i> mag	<i>V-S</i> mag	Photom. sp. type	<i>A_V</i> mag	<i>d</i> pc
1564	04:24:48.21	+55:08:59.2	13.413	4.358	3.635	2.552	1.137	0.439	1.046	g8 III-IV	1.88	830.0
1565	04:24:48.42	+55:12:02.2	19.901			2.568	1.198	0.530	1.004	g8		
1566	04:24:48.45	+55:10:15.2	18.322	3.954	3.142	2.256	1.115	0.400	1.009	f6 IV	2.683	4110.0
1567	04:24:48.55	+55:12:11.6	19.412	3.480	2.928	2.104	1.037	0.405	0.965	g0		
1568	04:24:48.94	+55:10:38.5	19.593			2.901	1.348	0.474	1.269	g5 III		
1569	04:24:48.95	+55:12:08.8	19.258	3.508	2.811	1.937	1.007	0.363	0.848	f2 V		
1570	04:24:49.49	+55:13:03.2	18.601	3.840	2.881	1.889	0.926	0.318	0.796	a9 V	2.521	4970.0
1571	04:24:49.78	+55:12:32.6	19.973		2.919:	2.221	1.103	0.571	0.843	f-g **		
1572	04:24:49.80	+55:12:52.9	18.854	3.941:	3.288	2.297	1.074	0.391	1.127	g		
1573	04:24:49.88	+55:09:58.7	18.803	4.057	3.206	2.389	1.191	0.442	1.046	f6 V	2.958	2720.0
1574	04:24:50.03	+55:10:59.3	19.479			2.447	1.239	0.464	1.116	f3		
1575	04:24:50.34	+55:12:48.4	17.481			2.355	1.180	0.584	1.057			
1576	04:24:50.44	+55:04:06.2	18.272			4.068	1.933	0.733	1.911	k0 III:		
1577	04:24:50.87	+55:04:54.8	18.543		4.145	2.868	1.476	0.523	1.335	a6 IV-V	5.038	2270.0
1578	04:24:50.89	+55:10:01.3	16.901	5.006	4.107	3.008	1.387	0.536	1.256	g6 III	2.9	4230.0
1579	04:24:51.15	+55:12:57.7	15.678	3.842	3.161	2.251	1.059	0.439	0.945	g3 V:		
1580	04:24:51.52	+55:12:01.6	19.214	3.579	2.906	2.144	1.084	0.392	0.905	f8 V, md:		
1581	04:24:51.61	+55:11:43.9	17.174	3.755	2.908	2.048	0.988	0.341	0.866	f3 III-IV	2.363	3530.0
1582	04:24:52.09	+55:11:00.5	19.686			2.879	1.327	0.581	1.215	k0 V	2.858	1530.0
1583	04:24:52.28	+55:12:26.2	17.727	4.753	3.917	2.782	1.277	0.569	1.124	g-k		
1584	04:24:52.42	+55:12:59.0	19.789		2.947	2.199	1.066	0.412	0.955	f8 V	2.313	4960.0
1585	04:24:52.52	+55:08:04.0	18.832		3.406	2.425	1.265	0.517	1.146	**		
1586	04:24:52.57	+55:13:09.1	19.475	3.443:	2.822	2.053	1.051	0.362	0.920	f6		
1587	04:24:52.73	+55:12:00.7	18.849	3.816	2.909	2.092	1.051	0.396	0.929	f3 IV		
1588	04:24:52.74	+55:10:00.4	17.747	4.006	2.943	1.859	0.939	0.313	0.767	a2 V	3.074	4950.0
1589	04:24:52.81	+55:06:12.6	19.253			2.491	1.267	0.442	1.138	f2 IV-V	3.607	3970.0
1590	04:24:52.97	+55:08:57.1	17.819	3.834	2.810	1.768	0.925	0.313	0.780	a0 V		
1591	04:24:53.20	+55:07:21.1	18.793		3.870	2.893	1.468	0.538	1.354	f8 V	3.985	1450.0
1592	04:24:53.24	+55:12:55.6	18.221	3.571	2.868	2.057	1.030	0.420	0.907	f5 V	2.371	2950.0
1593	04:24:53.32	+55:11:23.7	16.904	3.760	2.836	1.779	0.848	0.284	0.709	a2 IV	2.737	4710.0
1594	04:24:53.41	+55:09:20.2	10.532	3.395	2.505	1.490	0.686	0.207	0.602	a5 V, mr:		
1595	04:24:54.31	+55:10:30.9	18.331	4.091	3.096	1.950	0.979	0.320	0.810	a5 V	2.991	5110.0
1596	04:24:54.43	+55:11:07.6	16.120	3.540	2.569	1.656	0.843	0.283	0.742	a-f		
1597	04:24:54.57	+55:08:44.2	18.235	4.256	3.301	2.457	1.224	0.376	1.091			
1598	04:24:54.70	+55:08:55.8	18.786	4.139:	3.243	2.308	1.141	0.232	1.039			
1599	04:24:54.91	+55:11:27.3	18.521	4.002	3.139	2.238	1.115	0.374	0.992	f5 IV	2.725	4560.0
1600	04:24:54.95	+55:09:38.9	18.791		3.248	1.825	0.895	0.420	0.871			
1601	04:24:55.03	+55:12:03.9	19.371	3.646:	2.922	2.056	1.038	0.397	0.886	f4 V	2.488	5140.0
1602	04:24:55.39	+55:11:00.0	19.203		3.197	2.309	1.162	0.409	1.023	f4 V	3.004	3750.0
1603	04:24:55.40	+55:07:06.4	19.528			2.711	1.385	0.498	1.286	f5 V	3.848	2730.0
1604	04:24:55.43	+55:10:45.1	20.053			2.396	1.166	0.416	1.043	g0 V:		
1605	04:24:55.73	+55:09:44.6	19.384			2.523	1.235	0.573	1.022	g5		
1606	04:24:56.11	+55:10:17.7	18.709	3.974	3.119	2.369	1.189	0.385	1.070	f		
1607	04:24:56.78	+55:10:34.6	19.457			2.802	1.295	0.531	1.253	g		
1608	04:24:56.94	+55:11:13.8	19.728		3.067	2.302	1.170	0.355	1.082	f-g		
1609	04:24:57.17	+55:11:55.1	18.074	3.704	2.770	1.729	0.857	0.331	0.692	a5 V:		
1610	04:24:57.47	+55:04:44.8	16.545	6.403	5.654	4.070	1.882	0.769	1.746	k-m		
1611	04:24:57.49	+55:12:19.2	15.990	3.028	2.251	1.414	0.716	0.286	0.585	b9 IV	2.355	5330.0
1612	04:24:57.84	+55:09:07.5	18.875	3.749	3.025	2.162	1.078	0.347	0.950	f6 V	2.488	3500.0
1613	04:24:57.85	+55:07:58.6	16.373	4.391	3.466	2.517	1.225	0.457	1.138	f-g		
1614	04:24:57.86	+55:08:38.9	18.520	4.188	3.247	2.401	1.174	0.426	1.063	f9 IV	2.762	4000.0
1615	04:24:57.90	+55:10:30.7	14.527	5.862	4.935	3.479	1.494	0.621	1.317	k2 III	2.679	1780.0

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	<i>V</i> mag	<i>U-V</i> mag	<i>P-V</i> mag	<i>X-V</i> mag	<i>Y-V</i> mag	<i>Z-V</i> mag	<i>V-S</i> mag	Photom. sp. type	<i>A_V</i> mag	<i>d</i> pc
1616	04:24:57.91	+55:12:58.3	18.716	3.515	2.884	2.051	1.022	0.414	0.899	f6 V	2.255	3620.0
1617	04:24:58.46	+55:09:42.7	19.864			2.466	1.297	0.443	1.065	a3 V:		
1618	04:24:58.76	+55:10:02.3	17.279	4.151	3.297	2.351	1.146	0.413	1.041	f5 V:		
1619	04:24:58.90	+55:10:43.4	16.495	4.136	3.327	2.417	1.174	0.433	1.073	f9 IV	2.762	1570.0
1620	04:24:59.28	+55:07:58.6	18.067	4.372	3.495	2.524	1.271	0.455	1.196	f5 V	3.374	1730.0
1621	04:24:59.40	+55:12:49.3	19.220		3.126	2.277	1.059	0.431	0.973	g3 V	2.076	3040.0
1622	04:24:59.45	+55:06:44.7	16.790	4.476	3.725	2.635	1.314	0.768	1.066	g **		
1623	04:24:59.49	+55:12:20.7	16.147	4.854	4.028	2.892	1.313	0.569	1.160	k0 IV	2.55	1260.0
1624	04:24:59.90	+55:13:08.4	18.541	3.618	2.790	1.893	0.933	0.312	0.847	f0 V	2.467	4730.0
1625	04:25:00.37	+55:07:18.7	18.610			3.510	1.476	0.863	1.495	k-m V		
1626	04:25:00.96	+55:07:35.3	19.869			2.375	1.287	0.504	1.165	b9-a1		
1627	04:25:01.35	+55:12:39.2	19.984			2.336	1.116	0.437	1.066	g2 V	2.313	4110.0
1628	04:25:01.38	+55:06:27.9	19.655			2.895	1.429	0.544	1.357	g3 V	3.615	1830.0
1629	04:25:01.92	+55:08:54.4	18.922			3.170	1.406	0.673	1.345	k3 V	2.937	750.0
1630	04:25:02.39	+55:11:48.2	19.712		3.039	2.182	1.093	0.335	0.984	f5 V:		
1631	04:25:03.07	+55:06:14.4	18.208	4.416	3.299	2.205	1.121	0.378	0.991	a6 IV-V	3.561	3830.0
1632	04:25:03.26	+55:12:31.4	19.939		2.966	2.127	1.064	0.345	1.006	f5 V		
1633	04:25:03.34	+55:10:32.6	18.421	3.747	3.005	2.127	1.069	0.365	0.962	f5 V	2.533	3000.0
1634	04:25:03.74	+55:08:45.0	19.597			2.738	0.947	0.476	1.187	k-m III		
1635	04:25:03.87	+55:12:22.3	19.753		3.168:	2.259	1.126	0.414	1.002	f5 III-IV		
1636	04:25:04.13	+55:08:00.3	18.515		4.402:	3.276	1.494	0.580	1.374	k0 IV	3.303	2640.0
1637	04:25:04.21	+55:10:47.6	14.222	3.837	2.888	1.824	0.866	0.290	0.725	a6 IV, mr:		
1638	04:25:04.24	+55:11:08.0	19.427			2.430	1.200	0.361	0.997			
1639	04:25:04.39	+55:11:36.8	18.781	3.849	3.245	2.279	1.122	0.410	1.029	f8 V	2.546	2800.0
1640	04:25:04.62	+55:09:24.3	19.732		2.941	2.152	1.185	0.437	0.872	b		
1641	04:25:04.75	+55:06:30.3	18.447	4.583	3.463	2.327	1.141	0.383	1.012	a5 III		
1642	04:25:04.99	+55:10:25.0	18.758	3.890	3.174	2.262	1.125	0.417	1.035	f8 V:		
1643	04:25:05.30	+55:12:02.6	19.510			3.091	1.356	0.699	1.309	k-m V		
1644	04:25:05.33	+55:08:41.0	15.512	4.036	3.419	2.405	1.071	0.453	1.016	g9 V	1.835	394.0
1645	04:25:05.35	+55:01:57.3	18.527		4.365:	3.552	1.711	0.629	1.704	g		
1646	04:25:05.37	+55:13:07.5	19.195	3.698	3.146	2.244	1.144	0.443	1.012	f		
1647	04:25:05.87	+55:06:28.3	18.347	4.627	3.635	2.509	1.269	0.466	1.163	**		
1648	04:25:05.92	+55:11:18.9	17.695	4.115	3.270	2.387	1.198	0.438	1.074	f5 **	3.07	1680.0
1649	04:25:05.92	+55:09:10.2	19.827		3.114:	2.308	1.129	0.379	1.061	f-g		
1650	04:25:05.96	+55:06:14.1	14.090	5.302	4.430	3.151	1.432	0.581	1.389	k0 III-IV	2.9	720.0
1651	04:25:05.98	+55:11:41.8	19.794		2.842	2.202	1.138	0.402	0.973	f-g		
1652	04:25:06.02	+55:10:55.1	17.352	5.734:	4.872	3.547	1.599	0.613	1.480	k0 III	3.449	4370.0
1653	04:25:06.73	+55:08:49.1	19.736		3.202:	2.353	1.197	0.457	1.061	f6 V	2.983	4140.0
1654	04:25:06.90	+55:11:45.8	17.380			2.765	1.315	0.750	1.086	**		
1655	04:25:06.94	+55:03:48.8	18.650			3.825	1.898	0.704	1.870	g		
1656	04:25:07.64	+55:11:37.3	19.031		3.453	2.487	1.154	0.453	1.083	g7 V	2.305	1900.0
1657	04:25:07.84	+55:07:40.9	19.281			3.064	1.453	0.573	1.346	g9 V	3.424	1080.0
1658	04:25:07.91	+55:12:07.4	18.856	3.666	2.876	2.091	1.039	0.357	0.953	f5 V	2.409	3890.0
1659	04:25:08.07	+55:11:32.1	18.649	3.707	2.756	1.710	0.843	0.246	0.677	a5 V		
1660	04:25:08.39	+55:08:38.7	19.757			2.590	1.228	0.497	1.166	g5 V	2.737	2530.0
1661	04:25:08.80	+55:12:42.4	18.352	3.722	2.990	2.194	1.075	0.383	0.961	f8 V	2.35	2510.0
1662	04:25:09.60	+55:12:48.3	17.133	4.925	4.026	2.900	1.352	0.498	1.204	g5 III	2.837	4780.0
1663	04:25:09.73	+55:12:41.5	19.454		3.337	2.520	1.213	0.519	1.058	g		
1664	04:25:09.96	+55:08:03.5	19.021			3.603	1.608	0.865	1.573	k-m V		
1665	04:25:10.50	+55:07:28.8	19.104			3.306	1.578	0.636	1.431	g9 V	3.944	780.0
1666	04:25:10.68	+55:10:05.5	18.866		3.477	2.509	1.258	0.470	1.122	f5 IV	3.32	4070.0
1667	04:25:10.83	+55:08:36.1	18.376	4.199	3.266	2.198	1.055	0.375	0.919	a-f		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1668	04:25:10.86	+55:11:31.5	19.430		2.947	2.150	1.092	0.375	1.030	f-g		
1669	04:25:11.28	+55:07:51.7	19.354		3.553:	2.747	1.441	0.668	1.172	**		
1670	04:25:11.50	+55:10:18.5	19.799			2.686	1.364	0.540	1.170	f-g		
1671	04:25:11.55	+55:08:15.8	19.398		3.489:	2.641	1.245	0.458	1.167	g5 IV-V	2.766	3360.0
1672	04:25:11.66	+55:11:27.1	17.292	4.453	3.608	2.639	1.252	0.462	1.142	g		
1673	04:25:11.95	+55:09:39.7	19.059	3.729:	3.435	2.516	1.281	0.536	1.123			
1674	04:25:12.00	+55:09:23.1	18.362	4.275	3.297	2.264	1.150	0.404	1.000	f0 V	3.37	2870.0
1675	04:25:12.08	+55:07:58.5	18.810	3.966	3.290	2.391	1.219	0.434	1.088	f6 V	3.074	2590.0
1676	04:25:12.25	+55:08:32.3	19.337		3.201	2.118	1.022	0.354	0.892	a5 IV		
1677	04:25:12.50	+55:09:05.7	19.963			2.510	1.270	0.472	1.144	f5-g0		
1678	04:25:12.98	+55:13:04.7	19.697		3.034	2.176	1.099	0.401	0.949	f5 IV		
1679	04:25:13.10	+55:06:23.5	19.213		3.533	2.388	1.190	0.431	1.025	a5 IV, mr:		
1680	04:25:13.68	+55:08:32.3	19.661			2.647	1.247	0.399	1.172			
1681	04:25:14.03	+55:07:59.3	18.444	4.380	3.662	2.695	1.291	0.489	1.173	g5 V	2.999	1230.0
1682	04:25:14.10	+55:09:21.5	18.013	4.087	3.061	1.971	0.983	0.334	0.817	a5 IV		
1683	04:25:14.10	+55:06:00.9	18.610			3.470	1.585	0.697	1.502	k3 V	3.682	463.1
1684	04:25:14.39	+55:08:11.0	19.843			2.509	1.239	0.502	1.123	g2 V	2.825	3050.0
1685	04:25:14.47	+55:07:07.9	12.325	3.426	2.536	1.655	0.837	0.266	0.730	a-f		
1686	04:25:14.52	+55:05:32.6	16.068	6.385	5.600	4.053	1.865	0.735	1.786	k-m		
1687	04:25:14.57	+55:09:00.0	16.647	4.046	3.223	2.366	1.178	0.422	1.064	f5 **	2.987	1080.0
1688	04:25:15.20	+55:12:17.2	18.561	4.296:	3.843	2.910	1.354	0.523	1.263	g		
1689	04:25:15.25	+54:53:01.5	17.711		4.831	3.416	1.753	0.628	1.639			
1690	04:25:15.26	+55:10:25.0	18.402	4.376	3.407	2.439	1.225	0.443	1.120	f4 IV	3.266	3480.0
1691	04:25:15.38	+55:08:47.0	18.537	4.005	3.160	2.134	1.001	0.337	0.897	a-f		
1692	04:25:15.70	+55:10:57.0	19.411		3.447:	2.619	1.252	0.422	1.131	g		
1693	04:25:15.72	+55:12:53.4	19.711			2.689	1.234	0.498	1.111	g		
1694	04:25:16.18	+55:08:35.2	19.715			2.766	1.328	0.602	1.286	g		
1695	04:25:16.41	+55:11:02.6	17.233	5.162	4.354	3.136	1.432	0.563	1.321	k0 IV	3.045	1650.0
1696	04:25:16.65	+55:13:08.9	19.283		3.261	2.510	1.213	0.505	1.093	g		
1697	04:25:16.71	+55:11:30.6	18.842		3.428	2.582	1.372	0.677	1.130	**		
1698	04:25:16.94	+55:12:01.2	19.293		3.346	2.471	1.201	0.470	1.102	g2 V	2.667	2540.0
1699	04:25:17.11	+55:10:07.8	18.586	4.273:	3.293	2.173	1.054	0.330	0.905	a		
1700	04:25:17.33	+55:04:38.2	18.807			2.887	1.450	0.526	1.358	g0 V	3.827	1370.0
1701	04:25:17.35	+55:08:54.5	15.275	3.641	2.952	2.130	1.014	0.353	0.935	f9 V	2.055	650.0
1702	04:25:17.50	+55:08:24.8	17.787	4.356	3.432	2.499	1.227	0.442	1.120	g0 V	2.9	1310.0
1703	04:25:17.55	+55:09:19.9	18.307	4.289	3.288	2.189	1.087	0.355	0.973	a7 V	3.399	3480.0
1704	04:25:17.82	+55:12:05.0	19.356		3.187	2.443	1.181	0.464	1.049	g0 V	2.708	2950.0
1705	04:25:18.67	+55:13:09.1	19.858			2.301	1.205	0.471	0.990	a-f		
1706	04:25:18.70	+55:05:33.2	19.104		3.728:	2.721	1.435	0.457	1.284	f5 V:		
1707	04:25:19.52	+55:12:49.6	16.520	5.091	4.307	2.962	1.217	0.643	1.188	k4 V	1.984	336.6
1708	04:25:19.52	+55:12:23.8	19.513			2.855	1.308	0.552	1.204	k0 V	2.779	1470.0
1709	04:25:19.81	+55:04:22.5	19.183			3.162	1.523	0.529	1.482	g		
1710	04:25:19.82	+55:08:46.7	16.421	5.190	4.368	3.084	1.395	0.580	1.297	k0 V	3.141	299.3
1711	04:25:19.85	+55:08:15.6	18.904			3.180	1.581	0.634	1.404	g3 V	4.247	970.0
1712	04:25:20.61	+55:05:55.5	17.333	5.388	4.540	3.335	1.578	0.579	1.434	g5 III	3.777	3400.0
1713	04:25:20.88	+55:09:03.7	19.766			2.568	1.240	0.476	1.117	g		
1714	04:25:20.98	+55:10:46.1	19.045		3.377	2.437	1.221	0.443	1.054	f8 V	2.958	2610.0
1715	04:25:21.18	+54:58:46.2	19.141			3.058	1.453	0.548	1.359	g8 III-IV		
1716	04:25:21.51	+55:08:56.7	17.393	4.726	3.961	2.877	1.377	0.523	1.277	g8 V	3.191	550.0
1717	04:25:22.49	+55:06:35.9	18.646		3.945	2.904	1.398	0.628	1.285	g6 **	3.278	2930.0
1718	04:25:22.93	+55:07:33.8	19.098		3.430:	2.586	1.288	0.493	1.142	f8 V	3.236	2360.0
1719	04:25:23.46	+55:12:56.0	19.232		2.984	1.958	0.956	0.329	0.818	a7 V		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1720	04:25:23.75	+55:10:27.8	17.456	4.760	3.503	2.308	1.137	0.405	0.971	a5		
1721	04:25:23.89	+55:13:02.0	17.221	4.465	3.407	2.337	1.110	0.418	0.962	a-f		
1722	04:25:25.02	+55:10:35.8	17.304	5.226	4.458	3.238	1.500	0.590	1.373	k1 V	3.536	341.7
1723	04:25:25.15	+55:12:09.2	17.323	4.421	3.601	2.605	1.253	0.457	1.153	g2 IV-V	2.904	1360.0
1724	04:25:25.29	+55:05:37.9	17.908			3.592	1.493	0.841	1.513	k-m V		
1725	04:25:25.35	+55:06:27.7	15.920	5.770	4.820	3.509	1.640	0.630	1.506	g9 III-IV	3.869	1060.0
1726	04:25:25.36	+55:06:42.1	15.538	3.966	3.142	2.257	1.092	0.395	1.005	f8 IV	2.463	1190.0
1727	04:25:25.43	+55:13:14.7	19.263		3.115	2.313	1.223	0.453	1.040			
1728	04:25:25.78	+55:06:23.0	17.146	4.175	3.330	2.460	1.216	0.472	1.119	f8 IV	2.979	1970.0
1729	04:25:25.80	+55:13:19.1	18.100	4.248	3.154	2.224	1.117	0.435	1.003	f		
1730	04:25:26.02	+55:11:22.6	18.277	4.368	3.417	2.608	1.261	0.444	1.188	g0 IV	3.041	3070.0
1731	04:25:26.07	+55:13:28.3	16.197	4.415	3.658	2.679	1.197	0.546	1.149	k1 V	2.276	366.7
1732	04:25:26.44	+54:57:46.7	19.152			3.206	1.594	0.657	1.512	g5-k0 V		
1733	04:25:26.56	+55:11:33.9	17.990		4.600	3.493	1.651	0.609	1.498	g5 III	4.081	4000.0
1734	04:25:26.70	+55:11:09.6	19.935			2.384	1.192	0.430	1.100	f5 V	3.045	4760.0
1735	04:25:27.40	+55:06:44.1	15.944	3.770	3.069	2.227	1.065	0.397	0.982	g1 V	2.184	730.0
1736	04:25:27.42	+55:09:49.9	19.723			2.520	1.196	0.463	1.049	g5 IV		
1737	04:25:27.83	+54:59:00.0	19.184			3.202	1.608	0.657	1.534	g5		
1738	04:25:28.04	+55:06:54.7	19.473			2.702	1.315	0.474	1.199	g3		
1739	04:25:28.07	+55:04:50.3	19.159			3.020	1.546	0.699	1.289	g **		
1740	04:25:28.58	+54:59:53.7	18.758			3.564	1.763	0.770	1.674	g-k		
1741	04:25:29.40	+55:09:18.7	19.546			2.785	1.399	0.496	1.205	f8 V	3.698	2340.0
1742	04:25:29.90	+55:12:42.0	18.342	4.057	3.162	2.012	0.985	0.358	0.806	a5 V	3.016	5070.0
1743	04:25:30.64	+55:10:31.1	17.988	4.399	3.559	2.618	1.284	0.453	1.189	g0 V	3.137	1290.0
1744	04:25:30.73	+55:03:54.9	16.976	4.573	3.575	2.719	1.386	0.481	1.345	g5 III, md:		
1745	04:25:30.87	+55:06:01.5	18.955		3.896:	2.707	1.380	0.444	1.224	a5 V	4.659	3160.0
1746	04:25:31.54	+55:07:38.7	19.755			2.610	1.295	0.455	1.214	g0 V	3.182	2850.0
1747	04:25:31.62	+55:06:14.1	18.117			3.729	1.773	0.647	1.605	g8 III	4.38	3870.0
1748	04:25:31.85	+55:10:39.2	18.294	4.322	3.350	2.486	1.213	0.434	1.143	g0 V:		
1749	04:25:31.88	+55:06:50.7	15.807	4.545	3.487	2.471	1.217	0.443	1.122	f5 IV	3.149	1080.0
1750	04:25:31.90	+55:07:44.0	18.440	4.395	3.681	2.701	1.291	0.466	1.212	g5 V	2.999	1230.0
1751	04:25:31.94	+55:04:27.7	19.096			2.808	1.432	0.522	1.275	f8 **	3.836	1790.0
1752	04:25:31.97	+55:07:19.5	18.337	3.307	3.212	2.166	1.076	0.367	0.941	a-f		
1753	04:25:32.28	+54:59:06.2	18.789			3.690	1.774	0.760	1.708	k-m V		
1754	04:25:32.61	+55:06:29.0	16.177	6.137	5.302	3.796	1.700	0.696	1.589	k2 III-IV:	:: ""	""
1755	04:25:33.19	+55:00:36.0	17.930		4.634	3.245	1.576	0.581	1.498	g-k		
1756	04:25:33.32	+55:04:10.6	19.502			3.006	1.499	0.521	1.357	g		
1757	04:25:33.54	+54:58:39.1	17.928	4.698	4.006	2.947	1.279	0.640	1.360	k3 V:		
1758	04:25:34.04	+54:57:27.3	18.368		4.017	2.745	1.390	0.470	1.290	a6 III	4.701	3660.0
1759	04:25:34.64	+55:10:44.5	19.333			2.986	1.436	0.604	1.303	g9 **	3.353	1140.0
1760	04:25:34.70	+55:09:13.7	19.372			3.045	1.451	0.613	1.330	g8		
1761	04:25:35.05	+55:11:05.7	17.001	4.492	3.515	2.555	1.259	0.459	1.155	f8		
1762	04:25:35.29	+55:09:46.8	20.106			2.329	1.131	0.388	1.023	f8		
1763	04:25:35.88	+55:04:11.2	17.036		5.466	4.158	1.830	0.635	1.773			
1764	04:25:36.26	+55:10:59.0	18.949		3.455	2.508	1.258	0.446	1.100	f5 IV-V	3.32	3360.0
1765	04:25:36.37	+54:57:52.4	13.248	3.789	2.856	1.753	0.847	0.280	0.666	a3 IV	2.608	890.0
1766	04:25:36.77	+55:07:16.7	19.880			2.687	1.366	0.525	1.264	f8 V	3.561	2910.0
1767	04:25:36.93	+55:09:25.7	18.598	4.219	3.264	2.080	1.023	0.337	0.871	a		
1768	04:25:37.13	+55:10:17.8	17.709	4.486	3.588	2.666	1.316	0.467	1.200	f8 IV	3.395	2100.0
1769	04:25:37.96	+55:09:50.2	17.617	4.291	3.269	2.232	1.100	0.393	0.974	f0 III-IV	3.162	3480.0
1770	04:25:38.07	+55:09:30.7	19.901			2.697	1.311	0.462	1.181	g0		
1771	04:25:38.19	+55:13:27.1	17.303	3.961	2.902	1.945	0.985	0.343	0.841	a-f		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1772	04:25:38.71	+55:11:30.8	17.064	4.658	3.434	2.291	1.115	0.395	0.976			
1773	04:25:38.72	+55:10:00.5	16.920	5.173	4.258	3.126	1.512	0.560	1.386	g3 IV	3.96	1010.0
1774	04:25:38.78	+55:13:18.9	18.803			3.238	1.491	0.606	1.357	k0 V	3.54	750.0
1775	04:25:38.94	+54:52:34.6	18.596		4.104	2.964	1.419	0.442	1.646			
1776	04:25:39.41	+55:06:58.6	18.662		4.190:	2.964	1.466	0.588	1.373	g		
1777	04:25:39.48	+55:08:28.0	17.517	4.424	3.552	2.609	1.328	0.498	1.165	f5 V	3.611	1210.0
1778	04:25:39.59	+55:10:12.1	18.796		3.616	2.617	1.290	0.462	1.194	g0 V	3.162	1850.0
1779	04:25:39.76	+55:12:50.0	18.815		3.403	2.486	1.230	0.442	1.122	f6 IV-V	3.141	3240.0
1780	04:25:39.94	+55:09:43.4	18.907		3.401	2.497	1.266	0.489	1.120	f5 V	3.353	2580.0
1781	04:25:40.02	+55:11:05.4	18.687	4.175:	3.392	2.475	1.236	0.451	1.143	f7 V	3.103	2240.0
1782	04:25:40.39	+55:09:49.2	17.515	4.000	2.942	1.903	0.950	0.317	0.813	a6 V	2.87	3380.0
1783	04:25:40.40	+55:09:13.8	15.822	5.256	4.324	3.141	1.470	0.554	1.343	g5 III	3.328	2080.0
1784	04:25:40.61	+55:07:35.5	16.736	5.893	5.140	3.751	1.766	0.686	1.634	k0 IV:		
1785	04:25:41.02	+55:12:37.3	18.719			3.654	1.660	0.643	1.449	k0 III		
1786	04:25:41.40	+55:13:28.1	19.641		3.260:	2.373	1.193	0.447	1.098	f5 V	3.049	4150.0
1787	04:25:41.66	+55:04:04.3	17.092	5.375	4.281	3.159	1.559	0.575	1.455	g		
1788	04:25:41.71	+55:03:25.4	17.951			3.864	1.851	0.734	1.724	k1 V	4.996	235.0
1789	04:25:41.89	+55:10:16.5	16.933	5.067	4.354	2.997	1.222	0.728	1.242	k-m V		
1790	04:25:42.14	+55:12:57.6	18.881		3.375	2.426	1.325	0.671	1.071	**		
1791	04:25:42.15	+55:08:15.3	18.799			2.986	1.418	0.588	1.316	g9 V	3.278	920.0
1792	04:25:42.23	+55:06:08.1	17.242	5.137	3.825	2.573	1.285	0.474	1.161			
1793	04:25:42.46	+55:08:23.2	18.694			2.951	1.324	0.540	1.247	k0		
1794	04:25:42.72	+55:09:37.5	19.531		3.167	2.431	1.208	0.406	1.120	f		
1795	04:25:42.93	+55:09:26.1	18.843	4.140	3.196	2.371	1.170	0.420	1.108	g		
1796	04:25:43.04	+55:10:09.1	15.771	5.442	4.538	3.282	1.490	0.568	1.377	g9 III	3.078	2450.0
1797	04:25:43.08	+55:08:09.4	14.854	5.639	4.696	3.386	1.564	0.594	1.398	g8 III		
1798	04:25:43.11	+55:09:53.3	19.548			2.494	1.218	0.446	1.103	g0 V	2.862	3000.0
1799	04:25:43.30	+55:01:50.4	19.309			3.221	1.632	0.632	1.484	g0 V	4.584	1220.0
1800	04:25:43.37	+55:11:22.4	19.113		3.542	2.689	1.303	0.467	1.222	g2 IV	3.132	4130.0
1801	04:25:43.95	+55:10:03.0	19.516			2.553	1.295	0.556	1.124	f-g		
1802	04:25:44.77	+55:05:57.8	18.708			3.682	1.806	0.732	1.709	k0 V:		
1803	04:25:45.05	+55:08:57.5	19.564		3.155	2.400	1.193	0.459	1.048	f8 V	2.841	3500.0
1804	04:25:45.66	+55:07:57.1	19.504			2.920	1.443	0.552	1.252	g3 IV-V	3.673	2510.0
1805	04:25:45.96	+55:11:50.3	18.323	4.064	3.190	2.313	1.150	0.420	1.047	f3 IV	3.037	3830.0
1806	04:25:46.15	+55:12:51.1	19.199		3.613:	2.715	1.365	0.675	1.115	g **		
1807	04:25:46.17	+55:09:31.5	19.662			2.436	1.209	0.443	1.072	f5:		
1808	04:25:46.82	+55:10:35.0	18.447	4.460:	3.825	2.759	1.354	0.526	1.229	g		
1809	04:25:47.13	+55:10:56.5	19.213			2.651	1.235	0.497	1.133	g8 V	2.6	1670.0
1810	04:25:47.45	+55:10:04.1	19.454			2.948	1.434	0.601	1.306	g8 V	3.428	1270.0
1811	04:25:47.56	+55:04:35.2	19.338			3.189	1.587	0.607	1.407	g5 V	4.231	1050.0
1812	04:25:47.91	+55:12:39.4	19.317			2.356	1.196	0.457	1.012	f3 IV-V	3.228	4610.0
1813	04:25:48.35	+55:13:40.4	15.169	3.527	2.804	2.005	0.925	0.349	0.872	g0 IV	1.643	1400.0
1814	04:25:48.90	+55:11:42.7	16.526	4.143	3.372	2.415	1.164	0.550	0.982	g		
1815	04:25:48.97	+55:10:56.8	19.373		3.229	2.452	1.161	0.474	1.066	g		
1816	04:25:49.03	+55:11:22.4	19.051			2.841	1.398	0.549	1.228	g2 V	3.486	1560.0
1817	04:25:49.47	+55:02:32.3	18.465		3.896	2.846	1.446	0.572	1.358	f-g		
1818	04:25:49.64	+55:06:49.0	14.844	4.678	3.833	2.717	1.252	0.518	1.171	g8		
1819	04:25:50.24	+55:02:57.4	17.501			4.433	2.005	0.861	1.834	k		
1820	04:25:50.36	+55:07:22.7	18.168	4.529	3.659	2.641	1.248	0.504	1.151	g		
1821	04:25:50.67	+55:12:02.4	19.753			2.313	1.155	0.444	1.042	a-f		
1822	04:25:51.58	+55:10:34.0	18.550	4.138	3.088	2.133	1.050	0.363	0.938	f		
1823	04:25:51.92	+55:07:56.4	18.491	4.164	3.380	2.462	1.222	0.480	1.118	f8		

Table A.2.: Continued.

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	<i>V</i> mag	<i>U-V</i> mag	<i>P-V</i> mag	<i>X-V</i> mag	<i>Y-V</i> mag	<i>Z-V</i> mag	<i>V-S</i> mag	Photom. sp. type	<i>A_V</i> mag	<i>d</i> pc
1824	04:25:51.97	+55:11:21.9	16.567	4.146	3.291	2.405	1.174	0.451	1.067	f8 IV	2.804	1630.0
1825	04:25:52.85	+55:09:59.7	18.949	3.917	3.450	2.494	1.235	0.421	1.064			
1826	04:25:53.37	+55:11:14.1	16.783	5.043	4.103	2.963	1.384	0.532	1.248	g		
1827	04:25:53.44	+55:10:30.0	16.818	4.242	3.471	2.561	1.216	0.467	1.107	g3 V	2.729	740.0
1828	04:25:54.03	+55:06:54.2	19.791			2.466	1.173	0.434	1.039	g0		
1829	04:25:54.14	+55:09:54.0	19.136		3.109	2.113	1.047	0.355	0.891	a-f		
1830	04:25:54.19	+55:10:08.7	18.500	3.760	3.022	2.155	1.068	0.378	0.950	f5 V	2.529	3120.0
1831	04:25:54.56	+55:11:18.1	17.951	3.942	2.931	1.848	0.915	0.318	0.751	a5 IV		
1832	04:25:54.95	+55:05:02.0	18.476			3.322	1.599	0.584	1.486	g		
1833	04:25:54.96	+55:10:20.4	19.651		3.204	2.339	1.188	0.442	0.958	f5		
1834	04:25:54.97	+55:11:43.5	18.571			3.338	1.481	0.720	1.547	m2 V	1.502	271.6
1835	04:25:55.21	+55:09:14.0	18.640	4.084	3.593	2.560	1.251	0.462	1.170	g **		
1836	04:25:55.42	+55:09:25.2	19.738			2.436	1.213	0.453	1.117	f7 V	3.008	3800.0
1837	04:25:55.48	+55:07:31.5	19.598			2.564	1.208	0.459	1.127	g		
1838	04:25:56.21	+55:08:36.8	15.748	3.914	3.055	2.334	1.042	0.391	0.894	g		
1839	04:25:56.98	+55:06:25.8	19.881			2.473	1.134	0.480	1.120	k0 V	2.055	2430.0
1840	04:25:57.14	+55:06:37.7	18.296			3.173	1.268	0.744	1.323	k-m V		
1841	04:25:57.17	+55:12:47.7	15.883	3.868	3.114	2.189	0.992	0.477	0.912	g5 V	1.756	670.0
1842	04:25:57.22	+55:04:50.6	18.545			3.711	1.733	0.790	1.552	k3 V	4.297	338.5
1843	04:25:57.60	+55:12:15.7	19.486		2.699	2.095	1.094	0.450	0.983			
1844	04:25:57.88	+55:09:37.9	18.159	4.385	3.531	2.494	1.222	0.459	1.173	f		
1845	04:25:57.90	+55:13:28.2	17.972	3.904		2.272	1.216	0.504	1.036	b-a		
1846	04:25:57.94	+55:09:14.2	16.665	3.981	3.189	2.311	1.141	0.409	1.050	f7 IV-V	2.708	1400.0
1847	04:25:57.99	+55:07:00.0	18.382	4.136	3.302	2.444	1.239	0.512	1.029	f **		
1848	04:25:58.08	+55:09:05.2	18.430	4.138	3.487	2.471	1.252	0.513	1.123	f		
1849	04:25:58.26	+55:10:05.5	18.153	4.061	3.356	2.493	1.181	0.453	1.089	g5 V	2.542	1330.0
1850	04:25:58.58	+55:05:54.9	16.054	4.681	3.614	2.619	1.289	0.552	1.177	**		
1851	04:25:58.58	+55:09:04.9	17.873	4.063	3.362	2.401	1.147	0.483	1.092	g		
1852	04:25:58.75	+55:09:41.7	17.650	4.156	3.328	2.399	1.187	0.400	1.111	f		
1853	04:25:58.98	+55:03:21.3	17.267			4.019	1.867	0.782	1.656	k1.5 IV		
1854	04:26:00.22	+55:03:53.9	18.008			4.309	2.011	0.855	1.754	k2 IV:		
1855	04:26:00.79	+55:04:00.2	16.287		3.640	2.731	1.330	0.450	1.214	g0-g5		

A.3. Maksutov photometry and classification of stars in the Sh2-205 area

Table A.3. Results of Maksutov photometry and classification of stars in the Sh2-205 area. The stars with two asterisks in the last column were not classified in two dimensions since their images are asymmetrical, i.e., these stars are double or multiple. The components of some of them are seen separately but they are closer than 7".

No.	RA (J2000) h m s	DEC (J2000) ° ' "	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
1	3:52:47.33	+53:51:15.0	13.03	4.12	3.48	2.44	0.96	0.52	0.92	k3.7 V	0.91	127
2	3:52:48.50	+53:44:18.6	14.56			3.24	1.46	0.59	1.28	k0.5 III	2.939	483
3*	3:52:48.98	+53:29:01.2	8.38	1.43	1.23	0.95	0.49	0.16		b		
4	3:52:50.37	+53:43:04.2	14.57	3.57	2.79	2.01	0.92	0.36	0.84	g1.5 III	1.579	1050
5	3:52:52.16	+53:45:39.1	13.60		4.39	3.12	1.37	0.53	1.23	k0 III	2.54	680
6	3:52:53.83	+53:55:54.1	13.25		4.20	2.97	1.29	0.51	1.16	k0 III	2.386	357
7	3:52:55.59	+53:59:38.2	13.24		4.87	3.49	1.51	0.60	1.34	k1.5 III	2.823	900
8	3:52:56.06	+53:42:12.5	16.20			3.09	1.38	0.54	1.31	k0 IV		
9	3:52:58.39	+53:54:21.3	14.27	3.21	2.38	1.59	0.75	0.28	0.66	f1 **		
10	3:52:59.05	+53:22:09.6	16.47			2.79	1.17	0.52	1.11	k **		
11	3:52:59.33	+53:19:36.3	16.32			2.80	1.30	0.56	1.22	k1 V		
12	3:53:00.17	+53:44:52.9	15.99			2.32	0.98	0.49	0.86	k	1.642	1020
13	3:53:03.16	+53:48:37.3	16.25			2.95	1.25	0.64	1.00	k3 V		
14	3:53:05.70	+53:44:30.8	16.88			2.40	0.99	0.41	0.96	k0 IV		
15	3:53:07.26	+53:23:24.4	15.97			3.36	1.51	0.60	1.32	k0.5 III	3.157	1520
16	3:53:07.27	+54:00:05.8	14.23		4.36:	3.17	1.39	0.54	1.24	k0 III	2.822	1360
17	3:53:07.72	+53:54:13.3	13.72	3.54	2.74	2.00	0.91	0.34	0.83	g1.5 III	1.623	1000
18	3:53:08.41	+53:38:24.6	13.62	3.24	2.45	1.75	0.83	0.31	0.73	f6 IV	1.744	510
19	3:53:10.63	+53:28:18.9	15.99			2.78	1.18	0.48	1.01	k0.7 IV		
20	3:53:12.19	+53:47:10.3	16.68			2.62	1.08	0.50	0.97	k1 IV		
21	3:53:12.25	+53:48:37.0	12.29	4.86	4.09	2.85	1.19	0.48	1.04	k0.7 III	1.59	316
22	3:53:12.71	+54:02:27.4	12.04	3.38	2.66	1.89	0.88	0.32	0.79	f8 IV	1.54	355
23	3:53:13.92	+53:37:37.7	16.74			2.44	1.03	0.45	0.90	k0 IV		
24	3:53:14.24	+53:16:53.2	12.93		4.46	3.16	1.35	0.54	1.21	k1 III	2.401	292
25	3:53:14.39	+53:56:12.2	15.54			3.73	1.51	0.66	1.30	k3.7 III		
26	3:53:14.43	+53:43:06.7	12.49	2.93	2.21	1.47	0.69	0.26	0.59	f2 IV	1.16	710
27	3:53:14.53	+53:08:08.4	15.23			2.75	1.01	0.63	1.02	k5.5 V	0.882	268
28	3:53:14.98	+53:36:08.1	14.50	3.47	2.63	1.91	0.92	0.34	0.79	f7 IV	1.898	1020
29	3:53:15.27	+53:16:40.2	15.01	3.80	2.99	2.17	0.99	0.40:	0.89	g0 IV	1.804	1130
30	3:53:15.75	+53:18:36.2	14.72	3.82	3.03	2.17	0.95	0.39	0.92	g4 IV	1.466	620
31	3:53:15.78	+53:52:39.5	15.29			2.83	1.09	0.58	1.04	k3.5 V	1.62	242
32	3:53:16.22	+53:27:10.7	15.26			3.52	1.55	0.63	1.40	k1 III	3.08	1970
33	3:53:17.42	+53:03:53.6	16.20			2.57	1.16	0.52		k1.2 V		
34	3:53:19.88	+53:28:18.8	16.33			3.24:	1.34	0.52	1.29	m3 III		
35	3:53:21.76	+53:37:03.2	12.44	5.07	4.25	2.96	1.23	0.50	1.11	k1.2 III	1.905	293
36	3:53:22.27	+53:57:42.3	15.61			2.65	1.10	0.53	0.98	k2.5 V	1.931	306
37	3:53:22.49	+53:45:37.0	13.36	3.28	2.42	1.53	0.71	0.26	0.60	a9 IV	1.648	880
38	3:53:22.53	+53:13:38.6	14.05			4.14	1.79	0.72	1.66	m1 III		
39	3:53:22.61	+53:08:48.0	16.77			2.60	1.06	0.48	0.97	k0.7 IV		
40	3:53:22.88	+53:30:28.9	14.92	3.48:	2.62	1.98	0.93	0.36	0.85	f9 V	1.703	630
41	3:53:24.39	+53:48:13.2	15.32	3.43	2.70	2.02	0.90	0.32	0.79	g1 IV	1.373	740
42	3:53:24.71	+53:16:14.7	14.30	3.42	2.61	1.92	0.89	0.34	0.79	f6 IV	1.54	1320
43	3:53:25.00	+53:47:00.9	15.09	3.52:	2.79	2.02	0.90	0.38	0.80	g1 IV	1.347	920
44	3:53:26.66	+53:52:20.1	15.21			3.49	1.52	0.61	1.34	k1.5 III	2.985	2020
45	3:53:27.85	+53:36:07.1	16.53			2.67:	1.11	0.63	1.00	k		

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
46	3:53:28.08	+53:15:28.2	16.20			2.37	1.01	0.46	0.91	k1.2 V		
47	3:53:28.29	+53:35:41.6	16.69			2.58	1.08	0.48	1.02	k1.2 V		
48	3:53:28.86	+54:06:10.5	13.76	3.45	2.47	1.51	0.76	0.28	0.63	a0.5 IV	2.524	1310
49	3:53:29.24	+53:58:38.4	14.59	3.53	2.64	1.88	0.91	0.35	0.78	f4 IV	2.149	860
50	3:53:29.53	+53:45:19.9	14.61	3.24	2.44	1.76	0.83	0.31	0.71	f6 IV	1.497	1280
51	3:53:30.24	+53:40:37.4	12.80	3.18	2.62	1.85	0.79	0.32	0.74	g5 V	0.87	243
52	3:53:30.41	+53:50:49.2	13.43	2.88	2.13	1.50	0.79	0.28	0.67	b6 III:	2.87	1520
53	3:53:32.52	+53:32:36.6	13.56	3.39	2.56	1.83	0.87	0.33	0.77	f7 III	1.711	820
54	3:53:33.30	+53:45:49.8	15.19			2.43	1.01	0.46	0.95	k1.5 V	1.735	309
55	3:53:33.79	+54:11:49.9	14.06	3.18	2.42	1.75	0.83	0.33	0.75	f4 V	1.661	600
56	3:53:33.81	+53:29:30.6	14.43	4.44	3.65	2.65	1.15	0.43	1.08	g7 **		
57	3:53:34.41	+53:23:33.5	13.97	3.98	2.99	2.18	1.04	0.39	0.91	f6 III	2.169	850
58	3:53:34.57	+53:44:08.7	14.80	3.74	2.92	2.14	0.95	0.37	0.86	f7 III	1.585	530
59	3:53:34.94	+53:58:57.9	12.50	3.43	3.03	2.04	0.73	0.42	0.75	k3 V:	0.17	140
60	3:53:35.11	+53:04:10.6	12.70	3.29	2.52	1.75	0.82	0.29	0.76	f4 IV	1.547	680
61	3:53:35.81	+53:37:37.9	14.90		3.64:	2.63	0.99	0.55	0.96	k3.5 V:	1.16	250
62	3:53:36.79	+53:41:23.8	13.33	3.34	2.64	1.90	0.86	0.32	0.77	f9 IV	1.321	470
63	3:53:36.83	+53:07:34.0	15.13	3.50	2.73	2.04	0.94	0.37	0.82	f7 V	1.61	650
64	3:53:38.32	+54:06:25.9	14.72	3.79	3.07	2.17	0.98	0.40	0.88	g5 III	1.64	1030
65	3:53:41.48	+53:21:48.9	14.88	3.54:	2.74	2.01	0.93	0.35	0.81	f **		
66	3:53:42.03	+53:39:26.0	14.75	3.48	2.68	1.97	0.91	0.35:	0.78	f7 III	1.592	1590
67	3:53:42.22	+54:14:41.8	16.12			2.98	1.28:	0.71	0.99	k **		
68	3:53:42.40	+54:07:39.7	16.28			2.65	1.07	0.53	1.02	k2.7 V		
69	3:53:42.80	+53:06:51.5	15.02			2.90	1.06	0.68	1.08	k1 IV	0.8	211
70	3:53:43.11	+53:23:08.4	14.64			2.97	1.13	0.68	1.14	k5.5 V	1.4	161
71	3:53:43.17	+54:03:02.4	12.60	3.58	2.67	1.66	0.79	0.28	0.66	a8 III	1.944	540
72*	3:53:43.63	+53:16:23.0	8.17	2.27	2.00	1.32	0.57	0.26	0.52	f-g md:		
73	3:53:45.61	+53:40:18.7	16.77			2.46	1.04	0.48	0.90	k1.2 V		
74	3:53:45.92	+53:43:48.6	13.51	3.51	2.54	1.66	0.78	0.28	0.69	f0 III	1.918	1090
75	3:53:46.26	+53:46:05.3	15.62			3.04	1.16	0.69	1.24	k8 V	0.47	148
76	3:53:47.50	+53:53:43.1	14.53	3.27	2.45	1.97	1.08	0.41	0.84	b6 IV-V:		
77	3:53:47.81	+53:07:03.7	16.68			2.75	1.13	0.62	1.07	k		
78	3:53:47.95	+53:04:09.4	14.84		3.24	2.28	0.96	0.43	0.94	k0.5 V	1.718	580
79	3:53:48.34	+53:07:36.9	16.25			2.69	1.06	0.58	0.99	k3.5 V		
80	3:53:48.74	+53:52:45.0	14.13	3.45	2.67	1.90	0.90	0.33	0.78	f5 IV	1.711	1210
81	3:53:48.89	+53:57:26.1	14.35	3.91	3.08	2.23	0.99	0.39	0.92	g3 III	1.83	840
82	3:53:50.88	+53:40:16.1	12.70	3.38	2.81	1.96	0.83	0.33	0.78	g7 IV	0.874	320
83	3:53:50.95	+53:05:08.2	15.38			2.38	0.98	0.46	0.91	k1.5 V	1.131	363
84	3:53:51.07	+54:10:08.2	16.13			2.86	1.14	0.70	1.09	k4 V		
85	3:53:51.37	+53:36:17.1	14.23	4.05	3.17	2.37	1.08	0.41	0.97	g1.5 III	1.977	1800
86	3:53:52.68	+54:10:19.6	14.19	3.44	2.62	1.89	0.90	0.34	0.78	f5 IV	1.831	910
87	3:53:54.40	+54:00:01.3	16.46			2.70	1.14	0.59	1.03	k2.5 V		
88	3:53:55.49	+53:53:47.2	14.69	3.44	2.64	1.96	0.90	0.33	0.80	f7 IV	1.609	1890
89	3:53:56.05	+53:26:44.8	14.41			3.24	1.45	0.56	1.33	k0 III	3.199	438
90	3:53:56.84	+53:33:46.9	13.38	3.63	2.86	2.09	0.95	0.34	0.88	f9.5 IV	1.785	560
91	3:53:58.22	+53:44:30.4	16.49			2.45	1.02	0.42	1.00	k0 IV		
92	3:53:58.70	+53:56:56.3	14.34	3.35	2.53	1.82	0.86	0.32	0.75	f5 IV	1.528	1450
93	3:53:59.37	+53:53:08.9	14.10	3.87	2.81	1.82	0.84	0.31	0.71	f0 III		
94*	3:53:59.43	+53:12:56.8	11.07	2.36	1.86	1.40	0.78	0.29	0.69	b2 III-IV:	3.11	2360
95	3:54:00.02	+53:29:04.0	16.56			2.65	1.22	0.54	1.15	k0.5 V		
96	3:54:00.79	+54:10:26.4	12.12	3.54	2.96	2.10	0.92	0.36	0.84	g7 V	1.46	136
97	3:54:01.04	+53:58:21.7	13.57		4.43	3.17	1.36	0.54	1.21	k0.5 III	2.392	1250

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
98	3:54:01.31	+53:11:51.5	16.57			2.31	0.98	0.41	0.92	k0.5 V		
99	3:54:01.80	+53:12:27.1	14.79			3.57	1.58	0.61	1.47	k2.5 III	3.116	1570
100	3:54:02.25	+54:11:52.5	11.46	3.09	2.34	1.48	0.70	0.26	0.60	a9 V	1.676	304
101	3:54:02.72	+53:55:19.1	15.78			3.49	1.40	0.63	1.22	k3 III	2.558	1930
102	3:54:05.78	+53:58:43.8	13.39	5.33	4.36	3.14	1.37	0.53	1.22	k0 III	2.615	1020
103	3:54:06.08	+53:05:38.8	12.80	3.33	2.79	1.89	0.80	0.32	0.75	g6 IV	0.844	610
104	3:54:09.02	+53:30:50.2	16.21			3.00	1.23	0.63	1.23	k3.5 V	0.28	161
105	3:54:09.11	+53:59:28.1	12.80	3.60	2.71	1.89	0.90	0.33	0.80	f4 III	2.238	348
106	3:54:10.62	+53:50:23.1	13.96	3.57	2.53	1.68	0.81	0.29	0.65	a5 III	2.069	1420
107	3:54:10.96	+53:16:16.3	14.70	3.36	2.58	1.84	0.86	0.31	0.77	f5 IV	1.6	1660
108	3:54:12.16	+54:10:49.7	15.04	3.49	2.65	1.89	0.93	0.38	0.76	f3 IV	1.997	1330
109	3:54:13.43	+53:04:01.6	16.68			2.39:	1.04	0.45	0.89	k0 V		
110	3:54:13.86	+53:19:26.1	14.27	4.51	3.71	2.70	1.19	0.48	1.06	g8 IV	1.93	1210
111*	3:54:14.12	+54:04:27.5	10.32	1.79	1.46	0.99	0.56	0.21	0.46	b3 III:	2.332	1580
112	3:54:14.29	+53:08:15.7	12.52	3.43	2.54	1.71	0.80	0.30	0.73	f5 III	1.959	374
113	3:54:14.53	+53:16:51.4	16.31			2.83	1.09	0.59	1.10	k3.7 V		
114	3:54:14.84	+54:08:44.6	13.62	3.39	2.70	1.96	0.91	0.35	0.81	f9 IV	1.553	357
115	3:54:16.32	+53:45:25.3	14.25	3.88	3.16	2.26	1.01	0.38	0.92	g3 III	1.696	469
116	3:54:17.28	+53:22:46.4	14.96	3.28	2.52	1.86	0.85	0.33	0.77	f7 V	1.335	730
117	3:54:17.29	+53:10:00.3	14.58	3.16	2.33	1.70	0.81	0.30	0.70	f6 IV	1.697	1270
118	3:54:17.67	+53:47:55.2	15.02	3.42:	2.66	1.97	0.88	0.34	0.78	f8 IV	1.305	630
119	3:54:17.84	+53:53:59.7	12.91	3.06	2.19	1.34	0.68	0.24	0.55	b9 III	2.298	1300
120	3:54:17.88	+53:53:08.7	14.45	3.94:	3.21	2.33	1.03	0.45	0.86	g **		
121	3:54:18.08	+53:34:39.1	13.45	3.40	2.64	1.95	0.88	0.33	0.81	f7 V	1.5	940
122	3:54:19.23	+53:11:02.8	12.28	2.43	1.86	1.39	0.76	0.28	0.68	b2 III:		
123	3:54:19.27	+53:28:53.9	15.62			2.33	0.95	0.42	0.88	k0 IV	1.195	431
124	3:54:19.47	+53:22:53.3	15.47	3.41	2.61	1.92	0.95	0.36	0.84	f4 V	2.09	950
125	3:54:19.53	+54:03:40.4	14.91	3.67	2.72	1.94	0.93	0.35	0.81	f3 III	1.971	1540
126	3:54:21.55	+53:06:38.1	16.75			2.47:	0.99	0.48	0.94	k2.5 V		
127	3:54:22.12	+53:08:57.0	14.47	3.49	2.72	1.97	0.89	0.35	0.80	f9.5 IV	1.407	1080
128	3:54:22.61	+54:07:34.1	16.50			2.50	1.08	0.49	1.01	k1.5 V		
129	3:54:23.03	+53:21:54.6	11.68	4.47	3.74	2.63	1.14	0.45	1.02	g9.5 IV	1.832	224
130	3:54:23.72	+54:08:09.2	13.74	3.35	2.58	1.85	0.88	0.33	0.76	f3 IV	1.64	790
131	3:54:24.36	+53:50:04.2	14.17	3.87	3.15	2.21	0.95	0.38	0.86	g8 III	1.183	510
132	3:54:24.60	+53:31:21.9	10.79	2.73	2.12	1.41	0.65	0.23	0.61	f3 V:	0.8	198
133	3:54:25.43	+53:34:15.2	14.53	3.48	2.62	1.93	0.88	0.33	0.77	f7 III	1.526	1480
134	3:54:26.15	+53:46:20.9	14.98	3.63:	2.79	2.10	1.00	0.38	0.89	f8 V	1.976	570
135	3:54:26.39	+53:21:13.9	14.41	3.74	3.06	2.14	0.92	0.39	0.87	g9 V	1.353	560
136	3:54:27.60	+53:11:55.5	12.60	3.07	2.28	1.52	0.72	0.26	0.64	f2 IV:	1.41	510
137	3:54:27.94	+53:34:20.0	12.59	3.17	2.30	1.33	0.63	0.23	0.51	a2 V	1.85	890
138	3:54:27.94	+54:09:14.3	14.13		4.44:	3.11	1.31	0.53	1.13	k1.2 III	1.782	680
139	3:54:28.13	+54:15:55.0	13.41		4.73	3.30	1.38	0.58	1.18	k2 III	2.205	399
140	3:54:28.64	+54:03:10.8	13.62	3.56	2.58	1.61	0.77	0.26	0.65	a7 III	1.948	1110
141	3:54:29.59	+54:00:02.4	16.70			2.54	1.11	0.48	1.07	k0.7 V		
142	3:54:29.70	+54:16:24.1	14.40	3.32	2.60	1.87	0.83	0.39	0.77	f-g	1.225	780
143	3:54:29.82	+54:04:51.8	14.65		3.95	2.75	1.03	0.58	1.04	k4 V:	1.28	197
144	3:54:30.26	+54:14:04.1	15.92			3.15	1.20	0.77	1.01	k5.5 V	1.31	252
145	3:54:30.40	+53:28:23.5	15.47			2.33	0.96	0.44	0.86	k1 V	1.165	408
146	3:54:30.81	+53:52:16.6	15.12	3.48	2.63	1.88	0.88	0.32	0.77	f4 III	1.653	1970
147	3:54:31.11	+53:57:52.2	13.49	5.30	4.40	3.27	1.38	0.52	1.18	k0.5 III		
148	3:54:31.71	+53:22:20.9	15.08	3.60	2.85	2.12	0.90	0.35	0.85	g2 III	1.348	590
149	3:54:31.88	+53:36:03.7	16.38			2.59	1.23	0.46	1.03	k-m		

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
150	3:54:32.52	+53:43:46.6	14.39	3.88	3.12	2.25	1.02	0.38	0.87	g **		
151	3:54:32.86	+53:33:00.2	15.86			2.53	1.04	0.51	0.93	k2.2 V	1.62	397
152	3:54:32.89	+53:16:50.8	15.50			3.16	1.16	0.77	1.18	k-m **		
153	3:54:33.00	+53:40:10.3	16.70			2.37	1.02	0.44	0.90	k0 V		
154	3:54:33.90	+53:52:12.3	14.54	3.64	2.60	1.65	0.79	0.28	0.64	a8 III	2.009	1910
155	3:54:34.70	+53:21:09.2	15.78			2.43	1.00	0.46	0.97	k1.2 V	1.119	419
156	3:54:35.19	+53:52:44.1	14.70	3.73	2.86	2.35	1.24	0.43	1.10	a **		
157	3:54:35.53	+53:16:22.4	16.53			2.72	1.29	0.57	1.13	g6 V		
158	3:54:36.61	+53:55:37.6	11.61	2.80	2.24	1.59	0.74	0.28	0.66	f6 V	0.848	225
159	3:54:36.97	+53:57:02.0	15.26	3.77	2.74	1.96	1.09	0.44	0.88	b **		
160	3:54:37.01	+54:13:20.7	14.84	3.36	2.69	1.93	0.88	0.36	0.80	g0 IV	1.41	620
161	3:54:37.02	+53:39:03.5	15.05	3.66	3.07	2.14	0.94	0.38	0.86	g8 IV	1.312	770
162	3:54:38.04	+53:58:10.7	13.34	3.50	2.60	1.75	0.86	0.33	0.69	f0 III	2.011	497
163	3:54:38.12	+53:59:47.8	13.99			3.35	1.34	0.62	1.21	k3 III		
164	3:54:38.44	+53:18:20.5	13.88	3.08	2.30	1.54	0.72	0.27	0.62	f2 IV	1.419	780
165	3:54:38.63	+54:07:15.5	16.64			2.75	1.08	0.57	1.10	k3.5 V		
166	3:54:38.65	+53:25:48.1	16.94			2.35	0.96	0.39	0.99	k0 IV		
167	3:54:38.74	+54:02:11.6	13.53	3.86	3.28	2.29	0.91	0.43	0.88	k1.5 V:	0.94	173
168	3:54:40.03	+53:51:55.8	14.70	3.98	3.35	2.33	0.99	0.43	0.89	k0.5 V	1.197	282
169	3:54:40.12	+53:51:18.1	12.20	3.30	2.37	1.45	0.74	0.27	0.61	b9 IV	2.53	730
170	3:54:40.16	+53:59:25.3	14.95	3.81	2.84	2.07	0.95	0.35	0.85	f7 III	1.766	1650
171	3:54:40.55	+53:56:26.4	14.67	3.65	2.69	1.84	0.79	0.30	0.62	g5 IV		
172	3:54:43.01	+53:46:09.3	12.53	3.13	2.28	1.30	0.60	0.21	0.49	a5 IV	1.683	850
173	3:54:43.07	+54:03:23.7	16.59			2.56	1.08	0.53	1.00	k2 V		
174	3:54:43.20	+53:27:50.7	11.59		3.35	2.23	0.78	0.49	0.85	k3.7 V:	0.08	84
175	3:54:43.73	+53:51:12.1	16.09			2.58	1.07	0.47	0.94	k0.7 IV		
176	3:54:45.90	+53:19:22.8	12.97	2.72	1.92	1.12	0.57	0.21	0.45	b9	1.88	1860
177	3:54:46.19	+53:15:57.4	11.79	2.91	2.27	1.58	0.73	0.27	0.67	f4 V	1.266	254
178	3:54:46.21	+53:04:37.1	13.49	3.20	2.59	1.84	0.82	0.32	0.78	g1 V	1.178	360
179	3:54:47.18	+53:34:48.8	16.65			2.67	1.14	0.49	1.03	k0.5 V		
180	3:54:48.45	+54:05:19.4	14.30	3.49	2.75	2.00	0.91	0.34	0.82	f9 IV	1.469	443
181	3:54:48.68	+54:05:39.8	13.86	3.29	2.60	1.90	0.88	0.34	0.77	f9 IV	1.447	433
182	3:54:49.05	+54:12:57.8	13.10	3.27	2.40	1.44	0.68	0.26	0.56	a6 IV	1.506	920
183	3:54:49.97	+54:10:09.2	14.34	3.80	2.73	1.78	0.86	0.31	0.73	a8 III	2.36	1480
184	3:54:51.31	+54:11:59.6	13.88	3.13	2.23	1.48	0.79	0.29	0.64	b7 III	2.813	1840
185	3:54:51.87	+53:51:26.5	16.38			2.44	1.04	0.46	0.94	k0.5 IV		
186	3:54:52.90	+54:01:21.4	16.52			2.17	0.99	0.30	1.06	g-k		
187	3:54:53.53	+53:29:05.4	14.67	3.51	2.60	1.74	0.81	0.31	0.68	f2 III	2.305	1300
188	3:54:54.08	+54:06:31.1	14.81	3.70	2.93	2.16	0.97	0.38	0.86	g1 IV	1.577	409
189	3:54:55.04	+54:16:19.6	13.86	3.49	2.48	1.54	0.74	0.27	0.62	a4 III	2.307	1180
190	3:54:55.43	+53:18:00.8	16.64			2.30	0.96	0.53	0.92	k1 **		
191	3:54:55.80	+53:36:14.7	15.96			2.47	1.04	0.45	1.01	k1 V	1.426	414
192	3:54:56.78	+54:04:16.8	13.33	3.28	2.68	1.90	0.83	0.32	0.76	g5 V	1.026	279
193	3:54:56.79	+53:04:58.8	15.71			2.33	0.95	0.48	0.87	k2 V	1.697	880
194	3:54:57.71	+53:46:55.5	16.18			2.24	0.98	0.44	0.92	k0 V		
195	3:54:58.48	+54:11:00.8	15.04	3.83	3.21	2.34	1.01	0.41	0.92	g8 IV		
196	3:54:58.79	+53:44:59.6	16.30			2.47	1.07	0.42	0.92	g9		
197	3:54:58.88	+54:00:02.6	12.86	3.22	2.36	1.38	0.67	0.23	0.53	a3 IV	1.964	950
198	3:54:58.97	+53:42:07.7	16.00			3.05	1.26	0.56	1.18	k1 IV		
199	3:54:59.32	+53:09:47.8	14.38	3.69	3.01	2.13	0.89	0.40	0.84	k0 V	1.299	570
200	3:54:59.57	+53:13:05.6	12.52	3.02	2.39	1.67	0.75	0.28	0.70	f8 IV	1.014	408
201	3:55:00.13	+54:15:28.5	14.03	3.52	2.62	1.61	0.78	0.28	0.65	a6 IV	1.845	790

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
202	3:55:01.98	+53:38:31.7	13.18	3.46	2.65	1.89	0.88	0.32	0.77	f5 III	1.681	690
203	3:55:02.06	+53:13:03.1	15.95			2.49	0.92	0.50	0.98	k3.5 V	1.003	435
204	3:55:03.84	+53:29:46.8	15.86			2.38	0.95	0.42	0.94	k0 IV	1.392	440
205	3:55:04.47	+54:07:10.4	16.41			2.98:	1.13	0.70:	1.07	k6 V		
206	3:55:04.59	+53:18:02.8	13.40	3.18	2.42	1.70	0.79	0.29	0.72	f4 IV	1.422	760
207	3:55:05.29	+53:38:53.0	14.62	3.58	2.68	1.98	0.90	0.34	0.79	f9 V	1.514	1590
208	3:55:06.06	+53:23:03.7	15.04	3.72	2.92	2.05	0.94	0.36	0.86	g5 V	1.686	1240
209	3:55:07.20	+53:26:35.1	15.66			2.59	1.01	0.52	0.97	k2.7 V		
210	3:55:07.27	+53:58:50.9	13.62		3.88	2.71	1.14	0.48	1.02	k0.5 III	1.635	570
211	3:55:07.87	+53:24:07.8	15.05	3.46:	2.74	1.98	0.89	0.34	0.82	g0 IV	1.389	610
212	3:55:09.36	+54:14:24.7	16.02			2.36	1.03:	0.47	0.93	k0.7 V		
213	3:55:10.78	+53:29:29.2	14.57	3.98:	3.25	2.34	1.04	0.41	0.92	g5 IV	1.642	930
214	3:55:11.35	+54:08:21.3	13.45	3.28	2.40	1.46	0.67	0.24	0.53	a8 III	1.577	800
215	3:55:11.50	+53:27:00.3	13.02	3.21	2.36	1.43	0.68	0.25	0.56	a**		
216	3:55:13.58	+53:33:52.7	13.55	3.92	2.85	1.84	0.87	0.30	0.76	a9 III	1.699	940
217	3:55:13.91	+53:16:36.1	15.66			3.12	1.19	0.70	1.23	k6 V	1.16	200
218	3:55:14.15	+53:08:47.0	13.58	4.92:	4.13	2.85	1.15	0.50	1.05	k1.7 III	1.627	560
219	3:55:14.78	+54:02:03.2	14.91			2.87	1.25	0.51	1.09	k0.5 III	2.082	880
220	3:55:14.98	+53:57:43.5	15.88			2.85	1.16	0.67	1.23	k3 V	0.37	132
221	3:55:15.47	+53:39:06.6	16.47			2.75	1.20	0.57	0.97	k1.5 V		
222	3:55:16.21	+54:12:15.9	12.91	4.62	3.85	2.72	1.15	0.48	1.01	k0 III	1.621	415
223	3:55:16.27	+53:54:37.9	16.13			2.91	1.21	0.57	1.28	k3 V		
224	3:55:16.34	+54:04:22.8	12.66	3.40	2.53	1.61	0.74	0.28	0.62	a9 IV	1.914	510
225	3:55:16.64	+53:21:59.5	13.01	3.34	2.80	1.93	0.80	0.34	0.78	g8.5 V	0.851	373
226	3:55:18.18	+53:59:00.7	13.63	3.33	2.72	1.98	0.85	0.35	0.81	g6 IV	1.137	270
227	3:55:18.21	+53:04:22.4	13.55	3.19	2.31	1.49	0.71	0.26	0.63	f0 III	1.375	1240
228	3:55:18.72	+53:54:17.3	15.36	3.45	2.67	2.01	0.92	0.34	0.82	f9.5 V	1.64	1080
229	3:55:19.01	+53:38:37.8	15.25			3.80	1.72	0.65	1.54	k0.5 III	3.769	1440
230	3:55:21.08	+53:45:49.7	15.44			2.32	1.00	0.43	0.93	k0.7 V	1.769	750
231	3:55:21.17	+53:23:09.3	13.79	3.29	2.42	1.56	0.74	0.27	0.63	f0 IV	1.687	870
232	3:55:22.02	+53:19:55.1	14.85	3.11	2.35	1.70	0.80	0.29	0.70	f7 IV	1.51	930
233	3:55:22.04	+54:04:12.8	11.58	3.23	2.48	1.73	0.82	0.30	0.72	f5 IV	1.695	251
234	3:55:22.32	+53:20:13.7	14.76	3.18	2.37	1.70	0.79	0.30	0.70	f4 IV	1.394	1440
235*	3:55:23.00	+53:33:27.3	8.48	2.10	1.77	1.15	0.51	0.24	0.48	f7 V, md:	0.14	92
236	3:55:23.20	+54:08:17.1	16.28			2.65	1.13	0.47	1.02	k0.5 IV		
237	3:55:23.61	+53:45:15.0	12.11	3.47	2.67	1.91	0.89	0.32	0.80	f4 IV	1.648	510
238	3:55:23.73	+53:17:19.1	16.75			2.52	1.18	0.59	0.98	g5		
239	3:55:23.92	+54:11:26.5	15.95			3.22	1.22	0.73	1.25	k8 V	1.26	217
240	3:55:24.61	+53:12:27.0	12.95	2.90	2.19	1.43	0.68	0.26	0.59	f2 IV	1.086	910
241	3:55:24.91	+54:12:16.6	15.76			2.74	1.07	0.64	0.92	k4 V: **		
242	3:55:25.58	+53:47:01.5	15.19	3.54	2.86	2.06	0.95	0.34	0.87	f9 IV	1.68	620
243	3:55:25.89	+54:02:58.7	12.02	3.03	2.34	1.63	0.77	0.28	0.69	f3 V	1.363	270
244	3:55:25.94	+54:08:54.0	14.13	3.59	2.63	1.83	0.87	0.32	0.76	f3 III	1.691	1220
245	3:55:26.44	+53:22:28.6	15.07	3.51:	2.68	1.95	0.91	0.34	0.80	f7 IV	1.597	1840
246	3:55:26.75	+54:11:25.9	16.21			3.11	1.19	0.73	1.17	k5.5 V		
247	3:55:26.93	+53:29:16.3	14.98	3.82	2.87	2.14	0.99	0.36	0.88	f8 IV	1.93	1550
248	3:55:26.95	+53:11:02.0	16.69			2.26	0.96	0.49	0.87	k0 V		
249	3:55:27.44	+53:44:36.6	12.87	3.24	2.64	1.85	0.82	0.31	0.76	g4 V	0.9	248
250	3:55:27.51	+54:10:58.8	12.55	3.17	2.51	1.78	0.82	0.31	0.71	f8 IV	1.285	750
251	3:55:28.08	+53:16:10.9	15.37	3.37:	2.60	1.93	0.90	0.38	0.77	f7 V	1.56	1180
252	3:55:28.10	+53:58:44.6	16.16			2.68	1.07	0.43	1.04	k		
253	3:55:28.73	+53:24:30.1	12.40	3.15	2.40	1.65	0.79	0.28	0.71	f3 IV	1.523	397

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
254	3:55:28.75	+53:47:15.9	16.36			2.67	1.05	0.58	1.04	k3.7 V		
255	3:55:28.88	+53:55:47.1	14.37	4.65	3.81	2.71	1.14	0.49	1.03	k0.5 IV	1.636	810
256	3:55:28.95	+54:00:06.6	15.91			2.92	1.12	0.66	1.08	k5 V	1.698	290
257	3:55:29.26	+53:26:32.3	13.65		4.79	3.31	1.32	0.58	1.20	k3 III		
258	3:55:30.82	+53:25:04.8	15.26	3.35	2.54	1.83	0.85	0.30	0.76	f8 IV	1.66	1040
259	3:55:31.46	+53:57:23.4	14.28	3.56	2.63	1.73	0.81	0.30	0.67	f0 III	1.384	1510
260	3:55:31.70	+53:05:14.3	15.28			2.58	0.95	0.57	0.99	k4 V	0.731	316
261	3:55:32.91	+53:10:17.1	12.25	3.09	2.57	1.76	0.75	0.31	0.73	g5.5 V	0.7	204
262	3:55:33.02	+54:15:22.7	16.38			2.51	1.04	0.48	0.96	k1.7 V		
263	3:55:33.82	+53:26:53.1	13.53	3.70	2.89	2.08	0.94	0.37	0.85	g4 IV-V	1.596	630
264	3:55:33.95	+53:14:19.1	15.91			2.41	1.00	0.46	0.94	k1.5 V	1.858	446
265	3:55:34.17	+53:56:49.3	16.69			2.54	1.12	0.49	1.04	k2 V		
266	3:55:34.18	+53:59:01.5	16.56			2.29	0.96	0.42	0.97	k1.2 V		
267	3:55:34.95	+53:19:10.6	13.55	4.05	3.45	2.33	0.90	0.46	0.89	k3 V:	0.687	179
268	3:55:35.68	+53:47:37.0	14.47	3.58	2.70	1.93	0.92	0.33	0.81	f7 IV:	1.947	1270
269	3:55:35.69	+53:18:23.3	12.96	3.15	2.28	1.33	0.63	0.23	0.52	a3 IV	1.873	1040
270	3:55:35.80	+54:02:15.9	12.78	3.33	2.59	1.85	0.85	0.32	0.76	f6 IV	1.477	760
271	3:55:35.85	+54:10:35.1	16.72			2.48	1.06	0.47	0.96	k0 IV		
272	3:55:36.15	+53:43:57.0	16.77			2.65	1.17	0.50	1.03	k0 V		
273	3:55:36.47	+53:10:11.1	16.13			2.50	0.99	0.55	0.95	k4.2 V		
274	3:55:37.42	+54:00:29.5	13.98	3.28	2.38	1.59	0.77	0.28	0.65	a6 IV:	2.426	1170
275	3:55:38.35	+53:41:38.1	12.23	3.33	2.44	1.48	0.72	0.26	0.61	a6 IV	2.244	600
276	3:55:38.48	+54:13:05.7	16.23			3.23	1.28	0.79	1.31	k5.5 V	1.72	240
277	3:55:38.69	+53:15:39.7	14.16	3.64	2.74	2.19	1.21	0.43	1.01	b		
278	3:55:38.72	+53:46:41.0	15.60			2.38	1.04	0.46	0.94	k0 V	1.857	770
279*	3:55:39.56	+53:52:40.6	9.47	2.26	1.88	1.22	0.54	0.24	0.50	f7 V:	0.321	135
280	3:55:39.86	+53:13:29.1	13.67	2.97	2.29	1.63	0.74	0.28	0.69	f4 V	1.031	540
281	3:55:41.94	+54:01:08.4	16.33			2.83	1.24	0.53	1.20	k **		
282	3:55:42.52	+54:06:23.7	13.97	3.29	2.41	1.65	0.80	0.30	0.69	a5 III	1.625	1310
283	3:55:43.02	+53:33:00.5	15.56			3.11	1.32	0.53	1.21	k1.2 III	2.439	1760
284	3:55:43.63	+53:43:51.8	12.63		3.05	2.18	0.67	0.35	0.93	k5 V:		
285	3:55:45.60	+53:36:09.7	15.71			3.58	1.65	0.60	1.49	k0 III	3.618	1900
286	3:55:45.88	+54:10:54.8	15.39			3.61	1.59	0.67	1.34	k1.2 III	3.092	1200
287	3:55:46.26	+53:40:43.5	15.61			2.91	1.26	0.50	1.11	k0.5 III	2.063	2140
288	3:55:47.77	+53:09:38.1	12.11	2.93	2.40	1.66	0.73	0.27	0.69	g1.5 V	0.639	237
289	3:55:48.28	+53:27:14.6	15.19	3.44	2.64	1.96	0.89	0.33	0.81	f9 IV	1.53	1490
290	3:55:48.52	+53:42:19.2	13.23	3.53	2.70	1.92	0.89	0.32	0.80	f6 III	1.81	610
291	3:55:48.58	+53:31:43.3	14.99	3.79	2.87	2.08	0.98	0.36	0.88	f6 III	1.964	1500
292	3:55:48.87	+53:30:14.8	15.30			2.94	1.22	0.57	0.87	k2.7 V:	0.19	92
293	3:55:49.13	+53:16:14.5	13.69	3.15	2.31	1.35	0.64	0.23	0.50	a5 IV	1.844	1410
294	3:55:49.25	+53:13:24.5	12.82	3.03	2.18	1.26	0.58	0.21	0.50	a7 III-V	1.647	990
295	3:55:49.95	+53:25:26.1	14.46	3.60	2.91	2.09	0.91	0.37	0.83	g3 IV	1.165	331
296	3:55:50.50	+53:04:41.4	16.30			2.37	0.94	0.46	0.95	k2 V		
297	3:55:50.69	+54:09:40.7	14.75	3.62	2.76	1.99	0.95	0.37	0.85	f **		
298	3:55:51.20	+53:45:21.8	15.79			2.77	1.09	0.54	1.03	k2.7 V		
299	3:55:51.34	+53:55:51.5	13.74	4.17	2.99	1.93	0.95	0.33	0.79	a2 III	2.914	990
300	3:55:51.98	+53:05:00.8	15.11	3.55	2.64	1.96	0.91	0.34	0.85	f7 IV	1.704	1780
301	3:55:52.38	+53:06:43.6	14.57	3.20	2.39	1.73	0.81	0.32	0.72	f4 IV	1.363	1310
302	3:55:52.51	+53:37:35.7	16.69			2.74	1.13	0.53	1.11	k2.5 V		
303	3:55:52.56	+53:37:51.2	13.87	3.67	2.75	2.00	0.95	0.35	0.82	f7 III	1.936	840
304	3:55:52.62	+53:29:18.8	14.58	4.26	3.36	2.45	1.10	0.41	1.01	g1.5 III	2.022	2120
305	3:55:52.69	+53:38:05.8	14.30	4.41	3.57	2.60	1.13	0.43	1.06	g5 III	2.192	1750

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
306	3:55:53.09	+53:43:00.7	14.78	3.60:	2.76	2.02	0.95	0.35	0.82	f6 IV	1.746	1510
307	3:55:53.15	+53:27:05.8	13.93	3.66	2.74	1.92	0.90	0.33	0.79	f5 III	1.765	930
308	3:55:53.46	+53:40:54.8	15.07	3.51:	2.79	2.10	0.95	0.37	0.87	g1 V	1.613	520
309	3:55:53.79	+53:18:04.9	14.09	3.24	2.43	1.70	0.80	0.30	0.74	f3 IV	1.649	1000
310	3:55:54.90	+53:04:46.8	16.77			2.71:	1.03	0.54	1.00:	k **		
311	3:55:55.16	+53:48:20.9	14.30	3.33	2.59	1.89	0.88	0.32	0.79	f8 IV	1.473	520
312	3:55:55.27	+54:06:59.6	14.23	3.49	2.64	1.88	0.90	0.34	0.79	f3 IV	1.822	1210
313	3:55:55.48	+54:13:01.5	14.66	3.44	2.69	1.98	0.93	0.35	0.80	f7 V	1.681	810
314	3:55:55.66	+54:06:36.5	15.85			2.39	0.98	0.44	0.93	k **		
315	3:55:55.81	+53:14:12.4	15.71			3.50	1.51	0.58	1.43	k2 III		
316	3:55:55.88	+54:13:34.5	14.14		4.12	2.97	1.28	0.51	1.12	k0 III	2.162	1780
317	3:55:57.53	+53:14:00.4	14.73	4.13	2.94	2.10	1.00	0.34	0.96	f3 III	2.108	1250
318	3:55:57.58	+54:07:18.5	16.43			2.35	1.01	0.44	0.91	k0.7 V		
319	3:55:59.82	+53:13:33.2	15.76			3.48	1.57	0.61	1.41	k **		
320	3:56:00.94	+54:04:30.6	13.38	3.06	2.34	1.62	0.77	0.29	0.68	f4 IV	1.421	650
321	3:56:01.14	+54:08:39.2	15.01	3.38	2.61	1.84	0.87	0.30	0.77	f4 IV	1.714	1820
322	3:56:01.18	+53:48:26.9	15.59			2.51	1.05	0.46	0.94	k **		
323	3:56:01.42	+53:23:07.5	13.94	3.23	2.42	1.57	0.71	0.28	0.60	a9 IV		
324	3:56:01.73	+53:06:07.8	13.44	3.20	2.45	1.74	0.81	0.31	0.75	f4 IV	1.433	750
325	3:56:05.77	+53:19:50.7	15.62	3.22	2.51	1.91	0.88	0.32	0.76	g0 V	1.396	960
326	3:56:05.96	+53:04:43.7	15.35			4.05:	1.86	0.71	1.67	k1.5 III	4.432	1110
327	3:56:06.21	+54:15:29.0	13.95	3.40	2.49	1.65	0.79	0.29	0.65	f2 III	1.743	1160
328	3:56:06.64	+54:01:44.7	15.07	3.28	2.52	1.89	0.87	0.33	0.79	f8 V	1.458	750
329	3:56:06.68	+53:16:17.3	14.57	3.45	2.40	1.60	0.84	0.31	0.67	b9 III	2.922	2080
330	3:56:07.19	+53:26:07.1	13.36	3.44	2.61	1.86	0.88	0.32	0.79	f4 III	1.654	870
331	3:56:07.45	+53:21:21.5	12.11	2.90	2.28	1.57	0.71	0.26	0.67	f8 IV	1.003	375
332	3:56:08.14	+53:10:10.1	9.13	6.08	5.25	3.71	1.40	0.66	1.26	k8 III	1.372	449
333	3:56:08.45	+53:17:30.1	14.32	3.21	2.34	1.57	0.77	0.31	0.59	a3 III	2.298	1460
334	3:56:08.55	+53:04:15.7	12.80	2.98	2.14	1.19	0.55	0.20	0.44	a3 V	1.509	1140
335	3:56:08.74	+53:26:16.4	14.81	3.87	3.08	2.22	0.99	0.39	0.94	g1.5 III	1.744	620
336	3:56:09.17	+53:29:45.8	14.32	3.69	2.96	2.17	0.95	0.38	0.90	g **		
337	3:56:11.11	+54:05:29.0	13.32	3.96	3.46	2.37	0.84	0.52	0.88	k3.7 V:	0.36	163
338	3:56:11.29	+53:11:47.3	14.75	3.10	2.37	1.90	1.03	0.39	0.84	b8 V:		
339	3:56:11.87	+53:56:37.2	16.50			2.70	1.13	0.44	1.06	k0 III		
340	3:56:12.02	+53:38:18.0	16.63			2.43	1.00	0.35	0.96	k		
341	3:56:12.06	+53:45:22.1	14.84			3.12	1.13	0.67	0.95	k7 V	1.06	143
342	3:56:12.61	+53:13:53.1	15.57	3.16	2.50	1.82	0.83	0.31	0.72	f9 V	1.281	1070
343	3:56:13.31	+53:18:43.3	14.12	3.10	2.27	1.54	0.71	0.26	0.66	f1 IV	1.401	1550
344	3:56:14.67	+53:09:14.0	14.13	3.15	2.29	1.47	0.68	0.26	0.60	f2 III	1.331	1380
345	3:56:14.71	+53:26:35.8	13.77	3.53	2.65	1.87	0.87	0.33	0.78	f6 III	1.66	910
346	3:56:15.48	+53:55:27.4	14.50	4.06:	3.11	2.28	1.04	0.37	0.95	f9 IV	1.892	2120
347	3:56:16.34	+53:16:30.5	12.45	3.23	2.36	1.47	0.70	0.27	0.61	a **		
348	3:56:18.15	+54:13:55.7	13.93	3.58	2.85	2.06	0.95	0.36	0.83	f9 IV	1.704	750
349	3:56:18.43	+53:28:00.7	14.15	3.74	2.98	2.15	0.97	0.36	0.90	g2.5 III	1.653	1990
350	3:56:18.50	+53:59:08.1	14.69	3.45	2.59	1.89	0.89	0.33	0.80	f7 IV	1.666	1160
351	3:56:18.82	+53:07:00.6	13.90	3.39	2.56	1.83	0.85	0.33	0.79	f4 III	1.612	1140
352	3:56:20.04	+53:16:03.4	15.60			2.48	0.98	0.54	0.96	k3.5 V		
353	3:56:20.19	+53:30:16.0	16.00			2.82	1.19	0.48	1.13	k0.5 IV	2.247	1350
354	3:56:20.33	+54:13:15.3	15.18			3.38	1.53	0.61	1.34	k0.5 IV	3.268	550
355	3:56:20.66	+54:03:59.7	15.60			2.95	1.20	0.64	1.25	k4 V	0.25	110
356	3:56:21.68	+53:11:26.5	12.38	2.82	2.23	1.57	0.71	0.27	0.68	f6 V	1.029	319
357	3:56:22.76	+53:15:35.4	15.11	3.12	2.34	1.67	0.79	0.30	0.71	f4 IV	1.586	1100

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
358	3:56:22.95	+53:42:47.0	16.46			2.85	1.07	0.56	1.02	k1 IV		
359	3:56:23.14	+53:47:56.6	16.00			3.03	1.11	0.65	0.95	k7 V		
360	3:56:24.83	+53:45:21.8	14.07		3.02	2.15	0.88	0.39	0.84	k0 V	1.337	486
361	3:56:25.20	+53:47:36.7	14.83	3.47	2.69	1.98	0.89	0.32	0.80	f8 IV	1.473	1290
362	3:56:25.28	+53:35:55.3	11.73	7.21:	6.00	4.34	1.84	0.71	1.64	k	3.007	700
363	3:56:26.15	+53:23:09.5	12.76	3.71	2.65	1.61	0.80	0.30	0.63	a2 III	2.468	850
364	3:56:26.21	+54:15:33.6	11.72	3.51	2.47	1.43	0.72	0.26	0.60	a1.5 III	2.372	710
365	3:56:28.04	+53:33:06.3	14.24	3.79	2.92	2.19	1.01	0.37	0.92	g **		
366	3:56:28.12	+53:38:29.5	16.52			2.45	1.11	0.39	0.99	g		
367	3:56:28.40	+53:41:08.1	12.78	3.39	2.46	1.53	0.72	0.27	0.63	a8 III	1.693	780
368	3:56:30.81	+53:34:22.9	14.86	3.98	2.84	1.88	0.88	0.31	0.77	f		
369	3:56:34.26	+53:33:45.6	14.62	3.87:	3.03	2.25	1.03	0.40	0.97	g1 IV	1.95	330
370	3:56:34.90	+53:57:38.7	14.59	3.87:	2.92	2.13	1.01	0.37	0.90	f4 III	2.056	1190
371	3:56:35.54	+53:30:34.6	15.38			2.57	1.08	0.47	1.03	k1.2 V	1.858	285
372	3:56:35.56	+53:08:33.9	15.73			3.57:	1.62	0.63	1.49	k0.5 III	3.617	1920
373	3:56:36.24	+54:10:26.9	14.01	3.55	2.64	1.89	0.91	0.33	0.79	f3 IV	2.189	890
374	3:56:36.50	+53:09:30.1	15.11	3.55	2.78	1.99	0.91	0.35	0.83	g1.5 III	1.58	1370
375	3:56:36.80	+54:00:56.9	12.40	3.35	2.51	1.55	0.71	0.25	0.61	a8 IV	1.68	402
376	3:56:37.55	+54:00:41.3	16.07			2.45	1.07	0.37	1.03	g5		
377	3:56:38.97	+53:23:20.3	13.98	3.31	2.38	1.55	0.72	0.27	0.61	f0 III	1.623	1560
378	3:56:39.98	+53:23:54.0	12.24	2.68	1.95	1.16	0.59	0.21	0.49	b8 III	1.97	1130
379	3:56:40.87	+54:07:14.2	15.58			2.86	1.24	0.50	1.12	k0 IV	2.277	1100
380	3:56:40.97	+54:07:50.3	16.22			2.48	1.08	0.47	0.94	k0.5 V		
381	3:56:41.47	+53:20:27.3	14.85			4.24	1.79	0.75	1.56	k4.2 III	3.863	1250
382	3:56:41.52	+53:46:47.9	16.11			2.51	1.04	0.45	1.00	k0.5 V		
383	3:56:41.96	+53:22:11.4	14.46			4.67	1.95	0.84	1.76	k-m	3.652	2000
384	3:56:42.71	+53:15:06.4	14.55	3.11	2.29	1.56	0.73	0.28	0.65	f2 IV	1.403	1650
385	3:56:43.65	+54:05:23.4	15.15	3.69	2.71	1.98	0.92	0.36	0.80	f5 III	1.636	1880
386	3:56:43.74	+53:21:22.3	14.93	3.36:	2.41	1.60	0.81	0.35	0.73	a2 V	2.857	1920
387	3:56:43.90	+53:22:41.9	12.36	3.36	2.48	1.59	0.76	0.25	0.74	a9 III	1.756	530
388	3:56:44.26	+53:45:35.5	13.44	3.40	2.54	1.71	0.82	0.30	0.69	f2 IV	1.752	960
389	3:56:44.91	+54:15:48.3	14.90			4.06:	1.81	0.74	1.53	k2 III	3.869	1220
390	3:56:45.00	+54:15:19.4	13.10	3.28	2.47	1.74	0.84	0.29	0.74	f4 III	1.752	402
391*	3:56:47.41	+53:33:36.8	10.92	4.46	3.77	2.73	1.09	0.60	1.23	m-k	0.08	15
392	3:56:48.15	+53:10:17.4	15.08	3.40	2.65	1.93	0.87	0.33	0.80	g1.5 III	1.322	680
393	3:56:48.35	+53:42:03.2	15.14	3.58	2.70	2.02	0.94	0.34	0.85	f **		
394	3:56:49.29	+53:59:18.3	14.54	4.22	3.28	2.43	1.10	0.40	1.00	g1.5 III	1.962	2130
395	3:56:49.95	+53:19:51.4	13.51	3.21	2.43	1.71	0.81	0.30	0.72	f4 IV	1.575	485
396	3:56:50.40	+53:18:45.0	14.18	4.24:	3.39	2.45	1.10	0.43	1.00	g6 **		
397	3:56:50.45	+53:54:31.9	12.91	3.55	2.50	1.55	0.78	0.27	0.66	a0 III	2.576	810
398	3:56:50.65	+53:25:48.1	14.40	3.78	2.95	2.13	0.96	0.35	0.88	g1.5 III	1.644	1450
399	3:56:50.68	+53:16:48.5	15.21			2.66	1.05	0.56	1.02	k3.5 V	1.232	270
400	3:56:50.76	+54:13:34.1	16.31			3.05:	1.19	0.67	1.18	k5 V		
401	3:56:51.12	+53:07:35.9	14.84	3.38	2.67	1.96	0.89	0.36	0.86	g **		
402	3:56:51.25	+53:21:08.3	16.45			2.60	1.14	0.52	1.08	k1 V		
403	3:56:52.35	+53:23:54.7	11.66	3.01	2.17	1.23	0.61	0.22	0.49	a0 IV	1.927	810
404*	3:56:52.79	+53:16:40.8	13.89	2.55	1.88	1.79	0.53	-0.11	0.84	a		
405	3:56:54.05	+53:46:00.3	12.56	3.66	2.93	2.06	0.93	0.34	0.85	g2.5 III	1.56	190
406	3:56:54.40	+54:04:09.6	14.28	4.28:	2.90	1.93	1.03	0.38	0.83	a0 IV-V		
407	3:56:55.30	+53:22:09.1	14.12	3.47	2.61	2.12	1.16	0.42	0.95	b6 IV-V:		
408	3:56:56.25	+53:10:41.8	14.06	3.42	2.72	1.96	0.87	0.34	0.82	g1 IV	1.284	382
409	3:56:57.56	+53:16:18.4	14.62			3.19	1.32	0.57	1.21	k1.5 III	2.47	620

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
410	3:56:57.70	+53:04:57.0	14.97	3.98	3.32	2.33	0.89	0.45	0.89	k2.7 V:		
411	3:56:58.14	+53:26:12.4	16.21			2.85	1.20	0.50	1.11	k0.7 IV		
412	3:56:59.45	+54:14:33.1	15.31	3.50	2.70	1.92	0.94	0.34	0.78	f4 IV	2.093	1170
413	3:56:59.66	+53:23:51.1	16.05			2.48	1.09	0.50	1.00	k0.5 V		
414	3:57:00.56	+53:59:24.5	14.09	3.64	2.78	2.04	0.95	0.35	0.86	f8 IV	1.859	1040
415	3:57:00.59	+54:11:10.9	14.31	3.38	2.48	1.81	0.97	0.36	0.78	b6 IV:	3.924	2220
416	3:57:00.95	+53:48:18.5	12.85	3.33	2.44	1.43	0.69	0.24	0.54	a3 V	2.038	870
417	3:57:00.96	+53:18:29.8	13.22	3.14	2.42	1.72	0.80	0.29	0.73	f4 V	1.356	530
418	3:57:01.95	+53:23:27.7	12.28	2.80	2.00	1.12	0.57	0.21	0.45	b9 V	1.846	1220
419	3:57:02.58	+53:19:24.7	13.42	4.05	2.77	1.92	1.03	0.38	0.88	b7 IV:		
420	3:57:03.37	+53:16:34.7	14.45	3.42	2.49	1.79	0.86	0.33	0.79	f5 IV	2.035	1340
421	3:57:03.53	+53:57:00.5	12.55	5.01	4.15	2.95	1.27	0.48	1.13	g9.5 III	2.215	267
422	3:57:03.53	+53:52:57.5	14.03		4.49:	3.26	1.41	0.55	1.26	k0 III	2.559	1420
423	3:57:03.57	+53:18:06.3	15.12	3.72	3.05	2.16	0.95	0.36	0.88	g5 IV	1.385	770
424	3:57:03.87	+53:42:03.5	16.81			2.46:	1.00	0.47	0.95	k2 V		
425	3:57:05.35	+53:03:14.2	13.52	2.91	2.21	1.56	0.71	0.28	0.58	f4 IV	1.057	620
426	3:57:05.98	+53:03:55.8	16.66			2.14	0.93	0.44	0.78	g **		
427	3:57:06.02	+53:47:34.3	15.06	3.45:	2.68	2.00	0.93	0.34	0.83	f8 V	1.644	670
428	3:57:06.19	+54:13:57.7	12.38	3.31	2.47	1.60	0.76	0.28	0.64	f0 IV	1.689	520
429	3:57:06.45	+53:45:26.3	12.72	3.22	2.57	1.84	0.84	0.31	0.79	f8 V	1.32	262
430	3:57:06.61	+53:25:56.0	12.06	3.93	2.97	2.04	0.94	0.34	0.86	f3 III		
431	3:57:06.83	+53:55:35.4	14.53	3.91:	2.87	1.77	0.84	0.29	0.68	a3 III		
432	3:57:07.07	+53:39:24.6	16.74			2.62	1.07	0.47	1.04	k0 IV		
433	3:57:07.38	+53:45:06.5	14.85	4.03	3.39	2.41	1.01	0.43	0.97	g9.5 III	1.467	268
434	3:57:07.67	+53:51:51.3	14.12	3.90	3.12	2.26	1.00	0.37	0.92	g3 III	1.598	1300
435	3:57:08.07	+53:40:13.4	15.01	3.75	2.98	2.15	0.95	0.36	0.87	g2 III	1.593	860
436	3:57:08.44	+54:03:52.7	13.93		4.40	3.16	1.37	0.53	1.22	k0 III "	2.375	1480
437	3:57:09.22	+54:03:25.7	14.91	3.72:	2.93	2.14	0.98	0.38	0.86	f9.5 IV	1.749	1120
438	3:57:10.15	+53:14:09.1	15.44		3.28:	2.31	0.96	0.43	0.92	k1 V	1.741	1340
439	3:57:10.80	+53:20:08.4	15.09	3.74	2.90	1.98	0.90	0.34	0.83	f6 III	1.474	1390
440	3:57:11.21	+53:06:56.1	15.21	3.16:	2.35	1.69	0.82	0.31	0.75	a7 III	1.645	1370
441	3:57:12.71	+53:27:13.3	13.43	3.87	2.80	1.70	0.81	0.26	0.66	f0 IV	2.442	990
442	3:57:12.86	+53:06:23.3	13.83	4.35	3.78	2.60	0.92	0.57	0.97	k5 V:	0.48	170
443	3:57:14.56	+53:14:54.7	14.92	3.85	2.97	2.14	0.94	0.40	0.85	g2 III		
444	3:57:14.68	+53:11:22.4	15.30	3.42	2.57	2.03	1.03	0.37	0.91	a		
445	3:57:15.85	+53:59:16.7	15.94			3.15	1.17	0.67	1.21:	k **		
446	3:57:16.85	+53:26:32.2	16.21			2.97	1.33	0.60	1.28	k2 V		
447	3:57:17.87	+53:14:23.5	14.90	3.59	2.59	1.79	0.94	0.35	0.76	b8 III		
448	3:57:18.32	+53:23:24.5	13.54	3.91	2.75	1.69	0.85	0.31	0.69	a2 III	2.789	1230
449	3:57:19.50	+54:13:21.1	14.73	3.74:	2.98	2.21	0.99	0.37	0.90	g1.5 IV	1.673	351
450	3:57:20.17	+54:10:12.8	14.85	3.31	2.49	1.98	1.08	0.41	0.88	b8 V:		
451	3:57:21.37	+53:33:57.8	12.66	5.48	4.59	3.21	1.33	0.53	1.19	k2 III	1.932	1060
452	3:57:21.89	+53:24:53.4	14.43			3.53	1.48	0.59	1.34	k3 III	2.445	1970
453	3:57:22.30	+53:41:58.3	13.70	3.39	2.41	1.63	0.85	0.31	0.72	b8.5 III	3.118	1190
454	3:57:22.30	+53:11:21.2	14.52	3.69	2.58	1.76	0.91	0.37	0.78	b9 III	3.187	1370
455	3:57:22.45	+54:05:55.7	14.91	3.64:	2.63	1.93	0.93	0.34	0.79	f6 IV	1.905	1590
456	3:57:22.69	+54:02:30.5	15.63			2.36	0.99	0.43	0.91	k0 IV	1.281	417
457	3:57:24.90	+54:10:03.4	11.70	3.39	2.49	1.49	0.69	0.25	0.57	a6 III	1.68	338
458	3:57:25.11	+53:27:55.1	16.23			2.40	1.00	0.44	0.97	k0.7 V		
459	3:57:25.47	+53:23:24.0	14.55	3.79	2.93	2.11	0.97	0.36	0.86	f7 III	1.731	960
460	3:57:25.99	+53:19:02.3	16.56			2.65	1.02	0.53	1.01	k3.2 V		
461	3:57:27.11	+53:20:52.8	14.16	3.33	2.53	1.79	0.85	0.32	0.74	f3 III	1.611	1290

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
462	3:57:27.81	+53:04:47.5	14.95	3.29	2.43	1.78	0.81	0.31	0.70	f7 III		
463	3:57:27.94	+53:36:00.7	16.67			2.43	1.04	0.34	0.99	g-k		
464	3:57:28.81	+54:09:23.3	13.48	3.66	2.69	1.79	0.84	0.31	0.72	f1 III	1.431	1020
465	3:57:29.48	+53:55:06.2	12.82	4.66	3.89	2.77	1.21	0.46	1.06	g8.5 III	2.059	980
466	3:57:29.86	+53:37:24.7	13.55	3.19	2.44	1.72	0.80	0.29	0.72	f3 III	1.442	810
467	3:57:31.49	+53:42:04.7	12.98	3.58	2.83	2.04	0.94	0.35	0.86	f7 III	1.659	334
468	3:57:31.63	+53:32:43.3	13.90	3.97	3.16	2.29	1.03	0.39	0.95	g3 III	1.807	380
469	3:57:32.51	+53:28:52.6	14.95	3.74	2.95	2.14	0.99	0.39	0.88	f9 IV	1.792	1120
470	3:57:32.61	+53:43:01.1	16.25			2.95	1.22	0.47	1.25	k-m		
471	3:57:32.97	+53:20:51.1	16.44			2.29	0.95	0.43	0.90	k1 V		
472	3:57:33.11	+53:19:09.0	15.19	3.46	2.60	1.88	0.86	0.32	0.78	f7 IV	1.394	1620
473	3:57:33.62	+53:48:37.6	11.62	3.09	2.29	1.27	0.60	0.22	0.48	a3 V	1.709	610
474	3:57:33.97	+53:04:15.6	13.36	3.10	2.45	1.76	0.79	0.29	0.73	f8 V	1.097	391
475	3:57:34.09	+53:14:10.1	16.17			3.12	1.11	0.69	1.08	k7 V		
476	3:57:34.19	+53:21:49.9	16.76			2.09	0.96	0.48	0.91	g		
477	3:57:34.32	+53:46:55.0	14.59	3.80	2.90	2.02	0.95	0.34	0.82	f5 III	1.754	1370
478	3:57:34.39	+53:24:41.2	13.41	3.99	3.42	2.31	0.90	0.45	0.89	k3 V:	0.638	172
479	3:57:34.53	+53:17:03.4	15.68			2.43	1.04	0.48	0.97	k1.5 V	2.016	750
480	3:57:34.93	+53:50:31.6	15.28	3.54	2.87	2.12	0.93	0.38	0.87	g5 IV	1.407	472
481	3:57:34.97	+53:13:02.2	15.75			3.72:	1.65	0.69	1.46	k1.5 III	3.759	570
482	3:57:35.18	+53:13:38.5	16.06			2.46	0.99	0.36	1.02	g-k		
483	3:57:35.25	+53:41:20.0	14.02	3.95	3.15	2.30	1.03	0.40	0.93	g3 III	1.714	400
484	3:57:35.38	+54:00:46.3	14.09			3.35	1.37	0.60	1.21	k2.7 III	2.279	1000
485	3:57:35.43	+53:22:54.0	14.93		3.21	2.27	0.95	0.42	0.89	k0.5 V	1.623	1110
486	3:57:35.60	+54:05:44.4	13.74	3.41	2.55	1.71	0.80	0.28	0.71	f**		
487	3:57:35.83	+53:45:52.7	15.26	3.59	2.85	2.05	0.92	0.34	0.85	g1 IV	1.477	1020
488	3:57:36.04	+53:31:18.3	14.29			3.28	1.40	0.56	1.28	k1.2 III	2.835	810
489	3:57:36.72	+53:03:44.1	14.66	3.34	2.62	1.89	0.86	0.33	0.76	f7 III	1.294	1270
490*	3:57:37.00	+53:40:27.0	10.72	2.52	1.87	1.07	0.55	0.20	0.45	b8	1.911	660
491	3:57:37.02	+53:56:54.8	13.63	3.42	2.50	1.52	0.69	0.27	0.56	f5 IV	1.872	1150
492	3:57:37.76	+53:59:08.9	14.26	3.38	2.68	1.95	0.88	0.34	0.80	f8 IV	1.339	462
493	3:57:38.29	+54:06:49.6	15.62			3.50	1.57	0.61	1.34	k0 III	3.099	2310
494	3:57:38.38	+53:08:20.6	13.20	3.73	3.11	2.15	0.85	0.41	0.85	k1.5 V	0.654	170
495	3:57:39.12	+53:52:13.1	15.17	3.56	2.84	2.08	0.92	0.36	0.85	g2 IV	1.382	492
496	3:57:39.20	+53:29:29.6	16.38			2.39	1.08	0.50	0.95	g**		
497	3:57:40.20	+53:31:15.2	14.10	3.70	2.84	2.09	0.98	0.37	0.90	f7 IV	1.994	1200
498	3:57:40.30	+54:05:36.6	15.41			3.82	1.64	0.63	1.42	k0.5 III	3.407	1100
499	3:57:41.43	+53:11:37.9	16.06			2.35	1.00	0.45	0.97	k**		
500	3:57:42.22	+54:01:44.2	13.54		4.75	3.40	1.45	0.58	1.29	k1.5 III	2.59	1150
501	3:57:42.26	+53:40:08.6	15.22	3.66	2.68	1.97	0.94	0.34	0.83	f6 IV	1.909	1830
502	3:57:42.40	+53:18:53.7	14.43			3.39	1.42	0.60	1.28	k2 III	2.655	940
503	3:57:42.44	+53:22:02.7	15.97			3.47	1.54	0.59	1.41	k0.7 III	3.164	2630
504	3:57:43.07	+53:30:20.0	16.32			3.04:	1.32	0.53	1.19	k0.7 IV		
505	3:57:44.58	+53:24:59.0	11.73	2.93	2.14	1.17	0.56	0.20	0.45	a2 IV	1.601	730
506	3:57:44.62	+53:47:10.1	16.56			2.51	1.12	0.50	0.93	k1 V		
507	3:57:46.09	+53:22:06.3	14.81	3.25	2.48	1.83	0.84	0.33	0.79	f6 V	1.4	710
508	3:57:46.17	+53:11:56.3	14.96			3.24	1.46	0.59	1.28	k0 III	3.104	590
509	3:57:46.53	+53:43:14.1	14.90			2.71	1.10	0.50	1.05	k1 IV		
510	3:57:47.37	+53:26:36.6	13.38			4.09	1.66	0.74	1.49	k6 III	2.897	1140
511	3:57:47.45	+53:03:05.3	14.31	3.25	2.36	1.68	0.81	0.29	0.61	f1 IV	1.668	1540
512	3:57:47.47	+53:40:24.5	12.87	5.63	4.60	3.34	1.45	0.57	1.33	k0.7 III		
513	3:57:47.65	+53:21:28.0	14.09	3.23	2.44	1.74	0.80	0.31	0.74	f5 IV	1.382	1380

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
514	3:57:47.92	+53:58:42.5	16.85			2.31:	1.00	0.46	0.89	k0.5 V		
515	3:57:47.98	+53:56:35.6	12.31	2.90	2.10	1.14	0.56	0.19	0.42	a1 V	1.694	1110
516	3:57:48.11	+53:40:45.2	15.29			2.45	1.03	0.43	0.95	k0 IV	1.391	720
517	3:57:49.28	+54:02:45.0	14.65	4.03	2.87	1.80	0.90	0.32	0.68	a3 III	2.72	1890
518	3:57:50.36	+53:17:13.1	14.28	3.07	2.13	1.38	0.74	0.28	0.59	b7 IV	2.523	2250
519	3:57:50.48	+54:11:07.1	12.80	3.26	2.46	1.68	0.83	0.30	0.65	a4 III	2.627	650
520	3:57:51.59	+53:18:58.9	15.71			3.62:	1.66	0.66	1.42	k0.5 III	3.636	1880
521	3:57:52.97	+53:53:34.9	16.85			2.42:	0.96	0.42	0.90	k0.7 IV		
522	3:57:53.49	+53:28:17.1	15.59			3.50	1.57	0.60	1.44	k0.5 III	3.404	1990
523	3:57:53.52	+53:11:05.7	14.69	3.35	2.51	1.79	0.83	0.31	0.75	f5 III	1.49	1740
524	3:57:54.72	+53:30:31.6	14.45	3.76	2.76	1.87	0.90	0.34	0.76	f2 III	2.33	1300
525	3:57:56.60	+53:31:28.9	12.40	3.60	2.66	1.64	0.76	0.27	0.64	f7 IV	2.072	510
526	3:57:57.58	+53:55:17.1	13.65	3.29	2.41	1.47	0.69	0.26	0.58	a**		
527	3:57:57.95	+53:45:52.6	12.95	3.70	2.89	2.11	0.96	0.34	0.88	g1.5 IV	1.625	1130
528	3:57:58.17	+53:47:18.8	14.49	3.86	3.03	2.19	0.99	0.37	0.88	g2.5 III	1.683	1480
529	3:57:58.57	+53:58:05.4	14.84	3.58:	2.61	1.80	0.86	0.34	0.77	f4 III	2.215	1640
530	3:57:58.75	+53:16:11.9	16.83			2.61:	1.04	0.55	0.98	k3.2 V		
531	3:57:59.38	+54:06:07.8	13.89	3.80	2.63	1.67	0.91	0.31	0.73	b9.5 III	3.182	1520
532	3:57:59.54	+53:23:45.5	15.18	3.52	2.76	2.04	0.93	0.39	0.86	f9 IV	1.599	620
533	3:58:00.62	+53:09:15.8	16.35			2.21	0.99	0.47	0.90	k0:		
534	3:58:01.16	+53:51:25.1	14.85			2.89	1.20	0.49	1.09	k1 III	1.757	950
535	3:58:02.00	+53:32:45.9	13.07	3.80	2.85	1.79	0.80	0.28	0.70	f		
536	3:58:02.21	+54:05:59.3	11.86	2.84	2.27	1.60	0.73	0.27	0.69	f7 V	0.91	246
537	3:58:02.31	+53:42:33.5	11.19	3.45	2.64	1.80	0.84	0.31	0.76	f6 III	1.74	155
538	3:58:02.88	+53:09:11.3	16.69			2.61	1.14	0.49	1.08:	k1 V		
539	3:58:02.90	+54:00:42.4	14.31	4.35:	3.65	2.58	1.07	0.45	0.99	k0 IV	1.616	181
540	3:58:02.93	+54:10:16.5	15.93			2.89	1.29	0.52	0.95	k1 IV:		
541	3:58:03.32	+53:39:39.8	15.90			3.17	1.32	0.57	1.22	k**		
542	3:58:03.60	+54:11:42.4	11.50	3.17	2.38	1.44	0.68	0.24	0.54	a5 IV	1.735	391
543	3:58:04.03	+54:07:59.6	15.46	3.38	2.61	1.89	0.90	0.35	0.79	f4 V	1.752	950
544	3:58:05.34	+54:06:54.5	13.49	3.17	2.56	1.85	0.82	0.33	0.75	g2.5 V	1.105	354
545	3:58:05.41	+53:56:03.0	12.86	3.10	2.25	1.27	0.62	0.22	0.52	a0.5 IV	1.949	1130
546	3:58:05.69	+53:51:50.3	14.29	3.34	2.41	1.42	0.67	0.25	0.53	a4 IV	1.729	1600
547	3:58:06.01	+53:54:56.4	14.78		3.64	2.51	0.94	0.56	0.94	k4 V:	0.317	283
548	3:58:06.64	+53:35:40.2	14.92	3.49:	2.69	1.99	0.90	0.35	0.84	f8 IV	1.487	580
549	3:58:06.66	+53:53:47.8	13.42	3.34	2.65	1.91	0.88	0.32	0.81	f8 IV	1.482	337
550	3:58:06.97	+54:14:27.0	16.32			2.71	1.12	0.55	1.01	k2.7 V		
551	3:58:07.06	+53:55:28.3	14.45	3.24	2.45	1.73	0.82	0.31	0.73	f4 IV	1.71	760
552	3:58:07.07	+53:10:53.6	12.98	3.16	2.25	1.28	0.63	0.23	0.50	a0.5 IV	1.903	1190
553	3:58:07.19	+54:08:37.8	14.93			2.76	1.18	0.52	1.03	k1 IV	1.539	1040
554	3:58:07.59	+53:36:12.9	14.41	4.13:	3.52	2.44	0.92	0.56	0.95	k9 V:	0.58	244
555	3:58:08.09	+54:09:37.5	14.87	3.50:	2.52	1.55	0.77	0.30	0.61	a1.5 III	2.448	2020
556	3:58:08.57	+53:58:01.4	13.80	3.96	3.16	2.28	1.03	0.40	0.95	g3 IV	1.868	369
557	3:58:08.61	+53:28:30.1	13.86	3.47	2.50	1.51	0.73	0.25	0.58	a1.5 IV	2.223	1280
558	3:58:08.72	+53:47:19.8	16.47			2.59	1.08	0.49	1.00	k1.7 V		
559	3:58:09.43	+53:24:03.6	14.61	3.64	2.74	1.96	0.91	0.34	0.82	f6 III	1.649	1450
560	3:58:10.76	+53:40:21.1	14.59	3.78:	2.74	1.72	0.84	0.29	0.68	a4 III	2.271	1600
561	3:58:10.84	+53:05:10.8	14.61	3.43	2.59	1.90	0.88	0.34	0.73	f6 IV	1.612	1370
562	3:58:11.16	+53:20:42.8	14.78	3.68:	2.60	1.77	0.83	0.27	0.75	f3 III-IV	1.576	1740
563	3:58:11.87	+53:28:50.6	15.97			2.69	1.09	0.49	1.07	k0.5 IV		
564	3:58:12.01	+54:06:19.3	13.43	3.37	2.36	1.49	0.74	0.27	0.66	a4 III	2.481	1070
565	3:58:12.07	+53:43:30.2	16.00			2.44	1.02	0.39	0.96	k0 IV		

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
566	3:58:12.49	+53:54:28.1	13.20	3.29	2.33	1.39	0.69	0.24	0.56	a0 III	2.222	1160
567	3:58:13.27	+54:04:50.6	16.11			2.91	1.21	0.63	0.93	m1 V		
568	3:58:13.63	+54:01:30.5	14.61	4.14	2.94	1.91	0.98	0.36	0.80	a**		
569	3:58:13.88	+53:04:16.6	14.68	3.86	2.69	1.82	0.83	0.31	0.72	f		
570	3:58:14.99	+53:06:05.6	13.54	3.04	2.17	1.23	0.59	0.21	0.44	a1.5 IV	1.633	1590
571	3:58:14.99	+54:12:12.8	15.15	3.52	2.66	1.93	0.92	0.37	0.76	f4 IV	1.859	1810
572	3:58:15.39	+54:06:47.7	12.91	3.33	2.46	1.48	0.68	0.25	0.55	a8 III	1.555	560
573	3:58:15.71	+53:18:31.4	15.37			3.42	1.43	0.62	1.34	k2 III		
574*	3:58:15.90	+54:09:25.6	10.36	2.37		1.07	0.61	0.22	0.47	b2.5 III:	2.322	1770
575	3:58:16.20	+53:31:52.0	14.32	4.08	3.05	2.17	1.02	0.38	0.89	g**		
576	3:58:17.12	+53:11:51.8	14.73			3.69	1.61	0.66	1.41	k2 III	3.16	900
577	3:58:17.77	+53:42:01.7	13.39	3.96	2.81	1.74	0.85	0.31	0.72	a3 III	2.588	1050
578	3:58:20.04	+53:28:03.0	13.14	3.89	2.81	1.83	0.88	0.33	0.74	a7 III	2.471	810
579	3:58:20.31	+53:52:52.8	14.52	3.31	2.57	1.88	0.85	0.33	0.79	g**		
580	3:58:20.52	+53:47:36.6	16.50			2.58	1.02	0.47	0.99	k0.7 IV		
581	3:58:21.01	+53:04:02.9	14.19			4.51	1.90	0.84	1.65	k6 III	3.812	1090
582	3:58:21.42	+54:14:17.3	14.14			4.02	1.83	0.75	1.51	k1.5 III		
583	3:58:21.47	+53:56:28.8	11.02	2.92	2.37	1.62	0.73	0.28	0.67	f9 IV	0.922	166
584	3:58:21.60	+53:53:57.8	14.26	3.51	2.61	1.74	0.82	0.31	0.67	f**		
585	3:58:22.13	+53:10:22.3	14.46	3.26	2.47	1.77	0.82	0.33	0.74	f3 IV	1.443	1380
586	3:58:22.39	+53:33:56.4	14.49	3.93	3.04	2.18	1.01	0.38	0.90	g2 IV	1.854	870
587	3:58:22.57	+53:38:42.2	14.13	3.40	2.60	1.86	0.88	0.32	0.78	f5 IV-V	1.674	1060
588	3:58:22.65	+53:43:46.4	13.13	3.68	2.75	1.88	0.88	0.31	0.79	f3 III	2.18	590
589	3:58:25.05	+53:34:16.0	16.83			2.54	1.05	0.51	1.04	k2.5 V		
590	3:58:25.13	+53:21:45.2	14.30	3.61	2.69	1.90	0.89	0.33	0.78	f3 III	1.708	1130
591	3:58:25.18	+53:37:11.6	15.88			2.55	1.07	0.49	1.03	k1.7 V	1.089	405
592	3:58:25.78	+53:31:39.7	13.89			3.82	1.63	0.66	1.48	k3 III: **		
593	3:58:25.80	+53:55:07.1	14.29	3.27	2.39	1.63	0.75	0.28	0.65	f4 III	1.427	1660
594	3:58:26.16	+53:19:52.7	13.97			4.31	1.79	0.80	1.63	k5 III: **		
595	3:58:26.24	+53:42:20.4	14.14	3.99	2.87	1.88	0.86	0.32	0.74	f		
596	3:58:26.72	+54:06:19.9	13.99	4.70	3.89	2.84	1.17	0.60	1.23	k3	0.0	66
597	3:58:27.52	+53:56:00.4	14.28	3.27	2.43	1.63	0.78	0.29	0.67	f2 IV	1.56	1550
598	3:58:28.26	+53:48:52.0	15.85			2.56	1.07	0.51	0.96	k1.7 V	1.715	377
599	3:58:28.87	+53:39:56.9	16.05			2.86	1.10	0.56	1.09	k3 V		
600	3:58:28.88	+53:20:52.3	13.88	3.92	2.73	1.74	0.88	0.32	0.71	a**		
601	3:58:29.39	+53:56:57.4	14.91	3.59	2.67	1.94	0.94	0.36	0.81	f6 IV	2.297	1290
602	3:58:29.49	+54:07:34.3	14.79	3.65	2.62	1.68	0.81	0.30	0.64	a4 III-IV	2.062	2080
603	3:58:29.64	+53:37:07.7	14.54	3.49	2.69	1.98	0.90	0.35	0.82	f8 IV	1.564	1500
604	3:58:29.70	+53:40:36.9	14.50			3.37	1.41	0.59	1.30	k1.7 III		
605	3:58:31.74	+53:22:29.0	16.87			2.28	1.02	0.52	0.98	g7 V		
606	3:58:31.93	+53:21:06.9	11.86	4.93	4.14	2.88	1.20	0.48	1.09	k0.7 III	1.846	420
607	3:58:32.03	+53:28:24.5	11.21	2.67	1.99	1.37	0.74	0.27	0.62	b5 IV:	2.773	890
608	3:58:32.23	+53:14:46.9	14.93		3.47:	2.45	1.05	0.46	0.96	k0 IV	1.513	272
609	3:58:34.50	+53:50:50.2	11.65	2.89	2.09	1.13	0.56	0.20	0.44	a0 IV	1.717	840
610	3:58:35.37	+54:15:20.0	16.44			2.52:	1.21:	0.61:	1.01	g1 V		
611	3:58:35.46	+53:37:25.8	16.60			2.76:	1.15	0.53	1.12	k2.2 V		
612	3:58:35.70	+53:24:13.6	16.22			2.43	1.01	0.45	1.00	k1.5 V		
613	3:58:35.73	+53:06:26.7	13.64	4.87	3.91	2.81	1.21	0.46	1.07	g7 III	1.917	1570
614	3:58:35.95	+53:21:19.9	16.50			2.37	0.96	0.44	1.00	k1.7 V		
615	3:58:36.06	+54:07:14.1	15.35			2.55	1.08	0.46	1.00	k0 IV	1.772	640
616	3:58:37.01	+54:11:53.0	14.48	3.92	3.18	2.25	1.07	0.42	0.88	g0 IV	2.183	790
617	3:58:37.60	+53:03:57.3	12.09	2.46	1.78	1.09	0.57	0.21	0.44	b7 IV	1.927	1360

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
618	3:58:38.11	+53:50:37.3	14.04	4.79	3.91	2.87	1.28	0.49	1.16	g5 III		
619	3:58:38.83	+53:04:26.5	12.53	3.29	2.76	1.87	0.77	0.33	0.62	g8 III		
620	3:58:40.06	+53:34:46.5	15.06	3.87	2.86	1.92	0.91	0.35	0.78	a8 IV	1.745	1830
621	3:58:40.18	+53:58:30.1	14.88	3.90	2.79	1.44	0.87	0.35	0.83	be:		
622	3:58:40.31	+53:37:46.5	14.34	3.76	2.82	2.33	1.27	0.43	1.04	b9 III-IV:		
623	3:58:41.12	+54:09:08.6	14.68	3.73	2.74	1.88	0.90	0.34	0.76	f1 III	2.347	1440
624	3:58:41.36	+53:03:19.4	11.77	2.84	2.19	1.54	0.71	0.26		f5 V	1.017	461
625	3:58:42.06	+53:25:27.4	14.33	3.30	2.45	1.94	1.09	0.39	0.88	b1 V:		
626	3:58:42.30	+53:39:21.9	14.17	4.32	3.72	2.53	0.98	0.48	0.96	k1 IV:	1.15	192
627	3:58:43.22	+54:01:50.3	14.91	3.44	2.61	1.91	0.89	0.36	0.79	f5 IV	1.506	1780
628	3:58:44.26	+54:07:05.5	14.33	3.83	3.06	2.24	1.00	0.39	0.92	g **		
629	3:58:44.74	+53:03:19.9	14.88	3.28	2.35	1.92	1.07	0.42		b3	3.786	2180
630	3:58:45.36	+54:03:49.1	16.46			2.79	1.27	0.58	1.10	k0 V:		
631	3:58:45.40	+53:37:52.7	13.76	3.36	2.48	1.70	0.81	0.29	0.73	f1 IV	1.796	1090
632	3:58:46.74	+53:27:54.5	12.40	3.51	2.58	1.57	0.73	0.26	0.62	a7 III	1.946	590
633	3:58:48.30	+53:59:37.5	14.82	3.51	2.69	1.84	0.92	0.34	0.81	f1 V		
634	3:58:48.59	+53:58:06.5	14.22	4.33	3.64	2.52	1.06	0.43	0.97	k0 III	1.197	920
635	3:58:49.48	+53:27:09.0	13.25	3.77	2.73	1.73	0.80	0.30	0.67	a-f		
636	3:58:50.03	+53:04:39.2	11.76	2.79	1.99	1.06	0.51	0.18	0.38	a0.5 V	1.506	930
637	3:58:50.10	+53:37:59.5	13.57			3.61	1.50	0.61	1.35	k3 III	2.272	1480
638	3:58:50.64	+53:51:22.0	12.31	3.88	3.20	2.30	1.01	0.40	0.94	g6 IV	1.58	106
639	3:58:51.22	+53:31:18.3	13.42	3.71	2.64	1.60	0.77	0.27	0.61	a3 III	2.168	1120
640	3:58:51.23	+54:06:29.4	14.53	4.29	3.06	2.02	0.96	0.35	0.80	f1 IV		
641	3:58:51.34	+53:23:15.4	14.95			3.56	1.46	0.67	0.88	k2.5 III:		
642	3:58:51.49	+53:33:13.0	16.22			2.82	1.19	0.48	1.12	k0.5 IV		
643	3:58:52.33	+53:13:49.8	10.31	5.26	4.46	3.10	1.27	0.50	1.16	k1.7 III	1.69	401
644	3:58:52.68	+53:48:28.1	11.86	3.31	2.40	1.38	0.66	0.24	0.55	a3 IV	1.966	570
645	3:58:54.34	+53:25:56.3	13.41	3.73	2.81	2.23	1.22	0.44	0.98	b9 IV-V:		
646	3:58:55.15	+54:02:57.5	13.23	5.23	4.37	3.01	1.23	0.52	1.09	k1.5 III	1.682	850
647	3:58:55.36	+54:15:34.0	11.89	3.61	2.71	1.70	0.80	0.28		a8 IV:	2.097	262
648	3:58:57.26	+53:40:39.7	15.04			3.01	1.10	0.69	1.12	k7 V	0.69	186
649	3:58:57.37	+53:28:22.5	14.44	4.53	3.55	2.62	1.20	0.47	1.11	g1.5 III	2.475	1610
650	3:58:57.97	+54:13:20.1	13.73	3.85	2.99	2.20	1.11	0.41		f5 V:	2.741	314
651	3:58:58.65	+53:49:01.2	10.99	4.34	3.63	2.54	1.09	0.42	0.99	g8 III	1.621	308
652	3:58:59.33	+53:54:10.1	13.72	3.91	3.21	2.30	1.00	0.40	0.92	g6 III	1.602	358
653	3:59:01.13	+53:47:26.8	14.62	3.34	2.52	1.82	0.85	0.32	0.75	f6 IV	1.55	1410
654	3:59:03.60	+53:39:06.8	16.26			2.60	1.06	0.53	1.03	k **		
655	3:59:03.87	+53:26:03.3	13.38	3.41	2.47	1.48	0.68	0.24	0.55	a5 III	1.911	940
656	3:59:04.11	+53:10:39.2	12.25	3.39	2.49	1.47	0.68	0.24	0.57	a6 III	1.69	620
657	3:59:04.46	+53:19:18.4	14.44	3.54	2.59	1.67	0.78	0.28	0.66	f0 III	1.98	1460
658	3:59:04.68	+54:07:53.8	13.76	4.22	3.65	2.51	0.96	0.53	0.88	k **		
659	3:59:04.96	+53:11:19.4	14.28	3.24	2.36	1.71	0.90	0.31	0.73	b5 V:		
660	3:59:05.02	+53:56:49.3	15.49			2.91	1.24	0.50	1.16	k0 IV	2.195	1050
661	3:59:05.66	+53:16:33.1	14.03	3.59	2.58	1.74	0.81	0.30	0.70	f2 III	1.439	1310
662	3:59:05.90	+54:05:19.6	14.74	4.11	2.89	2.02	0.97	0.36	0.83	f8 IV	2.116	1330
663	3:59:05.97	+53:36:16.3	13.60	3.32	2.55	1.81	0.85	0.33	0.75	f **		
664	3:59:06.09	+53:43:55.6	14.50	3.68	2.70	1.66	0.78	0.26	0.64	a7 III	2.319	1340
665	3:59:06.95	+53:26:25.7	14.36			3.42	1.46	0.58	1.30	k1.5 III	2.741	1540
666	3:59:07.01	+54:03:33.8	14.37	3.50	2.54	1.55	0.76	0.25	0.61	a2 IV	2.398	1560
667	3:59:07.28	+53:54:22.4	14.53	4.18	3.00	1.93	0.96	0.35	0.81	a5 III	2.953	1400
668	3:59:07.38	+53:57:23.9	16.96			2.31	0.99	0.42	0.91	k0 V		
669	3:59:07.51	+53:38:35.7	14.61	3.46	2.76	2.00	0.89	0.35	0.83	g1 IV	1.372	473

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
670	3:59:07.53	+54:09:40.4	14.42	3.85	3.22	2.26	0.94	0.41	0.81	g9 IV	1.165	270
671	3:59:08.15	+54:00:13.7	14.64	3.40	2.50	1.58	0.73	0.28	0.58	a9 III	1.779	1130
672	3:59:09.09	+54:12:56.9	16.22			2.91	1.27	0.67	0.95	k2 V:		
673	3:59:09.27	+53:05:15.7	15.84			2.30	0.96	0.43	0.84	k0 IV	1.076	500
674	3:59:09.77	+53:52:01.7	15.20		3.15	2.22	0.93	0.42	0.87	k0 V	1.506	1340
675	3:59:09.86	+53:58:46.2	14.94	3.56:	2.77	2.01	0.90	0.36	0.84	g1.5 III	1.502	1340
676	3:59:10.39	+54:09:35.9	14.20	3.45	2.61	1.86	0.95	0.33	0.71	a3 IV:		
677	3:59:11.65	+53:12:51.2	14.33	3.31	2.50	1.81	0.85	0.32	0.75	f4 IV	1.658	1050
678	3:59:12.23	+53:59:00.5	11.44	3.30	2.55	2.06	1.19	0.43	0.98	b **		
679	3:59:12.34	+53:54:59.8	16.27			2.58	1.01	0.50	0.96	k2.5 V		
680	3:59:15.47	+53:57:47.2	15.11	3.36:	2.40	1.44	0.74	0.27:	0.64	a0 III	2.366	2560
681	3:59:15.95	+53:56:27.2	14.40	3.27	2.42	1.65	0.78	0.30	0.70	f **		
682	3:59:16.67	+53:38:09.2	12.91	2.99	2.40	1.72	0.77	0.30	0.73	f9 V	1.017	331
683	3:59:16.68	+53:47:49.6	12.57	3.25	2.49	1.73	0.81	0.30	0.74	f4 IV	1.501	570
684	3:59:16.72	+53:36:13.1	14.58	3.44	2.58	1.82	0.85	0.33	0.74	f3 III	1.518	1410
685	3:59:17.08	+53:41:49.6	16.37			2.58	1.07	0.51	0.99	k2 V		
686	3:59:18.57	+53:38:10.4	15.10			2.52	1.01:	0.45	1.00	k1 IV	1.747	263
687	3:59:19.09	+53:53:37.6	15.24	3.38	2.55	1.86	0.87	0.35	0.78	f3 IV	1.678	1530
688	3:59:19.12	+53:13:11.2	16.49			2.47	1.08	0.50	0.92	k1 V		
689	3:59:19.19	+53:58:19.7	13.05	3.12	2.32	1.51	0.74	0.28	0.61	a6 III	2.341	880
690	3:59:19.34	+54:09:10.5	14.19	3.38	2.56	1.82	0.88	0.35	0.72	f4 IV	1.827	970
691	3:59:20.22	+53:25:31.2	16.63			2.80:	1.15	0.55	1.07	k2.5 V		
692	3:59:20.24	+53:51:53.4	14.99	3.52:	2.67	1.96	0.91	0.34	0.82	f7 IV	1.648	1730
693	3:59:20.49	+53:17:18.0	15.26	3.71	2.75	2.05	0.96	0.38	0.87	f5 III	1.887	1760
694	3:59:20.55	+53:18:08.8	15.29			3.67	1.64	0.69	1.41	k2 III: **		
695	3:59:20.57	+53:38:50.7	16.58			2.82:	1.17	0.64	1.10	k3 V		
696	3:59:23.26	+53:45:54.6	12.94	3.32	2.44	1.57	0.71	0.26	0.62	f1 III	1.029	960
697	3:59:24.49	+53:57:53.5	14.90			4.15	1.77	0.75	1.53	k3.7 III	3.154	1940
698	3:59:25.10	+53:49:08.0	14.60		3.90:	2.92	1.24	0.52	1.13	k0 III		
699	3:59:25.15	+53:27:44.0	14.08	3.36	2.51	1.79	0.83	0.31	0.75	f5 III	1.482	1320
700	3:59:25.50	+53:11:44.8	13.78	3.56	2.73	1.96	0.90	0.34	0.79	f7 III	1.614	1010
701	3:59:25.50	+53:17:08.0	16.73			2.64	1.17	0.57	1.07	k0 V		
702	3:59:25.64	+53:44:08.2	13.23	3.68	3.10	2.11	0.85	0.38	0.84	k0.7 V	0.82	183
703	3:59:25.78	+53:53:17.6	16.06			2.89	1.10	0.62	1.09	k4.5 V		
704	3:59:26.50	+53:29:11.0	13.00	3.28	2.33	1.36	0.66	0.24	0.52	a1 III	2.099	1100
705	3:59:27.00	+53:30:30.7	14.02	3.32	2.58	1.88	0.86	0.32	0.78	f8 IV	1.292	453
706	3:59:27.70	+53:50:26.3	16.86			2.48:	1.07	0.53	0.96	k1 V		
707	3:59:27.88	+53:13:41.4	13.64	3.38	2.54	1.76	0.84	0.32	0.74	f2 IV	1.871	760
708	3:59:28.01	+53:54:17.6	14.91	3.86	2.72	1.72	0.89	0.32:	0.74	a0.5 III	3.084	2210
709	3:59:28.14	+53:21:16.6	14.67	4.10	2.84	2.04	1.12	0.45	0.88	b5		
710	3:59:28.23	+53:30:03.5	15.23	3.40	2.59	1.90	0.87	0.33	0.79	f7 III	1.502	1600
711	3:59:28.37	+53:31:35.0	15.08	3.57	2.83	2.08	0.95	0.37	0.84	f9 IV	1.586	570
712	3:59:28.52	+54:08:59.3	14.98			3.08	1.17	0.75	0.87	k5.5 V:	1.33	195
713	3:59:29.52	+54:04:54.8	16.20			2.98	1.34	0.60	1.16	k1 IV		
714	3:59:29.56	+53:56:46.1	15.27			2.91	1.06	0.70	1.08	k5.5 V	0.83	233
715	3:59:29.73	+53:51:38.7	16.18			2.85	1.27	0.62	0.99	k1.5 V:		
716	3:59:29.80	+53:22:49.0	14.78	3.75	2.65	1.71	0.84	0.31	0.69	a4 III	2.273	2000
717	3:59:30.15	+53:29:46.5	13.79	3.46	2.73	1.96	0.88	0.33	0.81	g0 IV	1.353	800
718	3:59:30.26	+53:08:11.0	16.63			2.55:	1.19	0.61	0.94	**		
719	3:59:30.29	+53:56:21.8	15.02	3.48:	2.58	1.66	0.76	0.29	0.67	f0 III	2.097	1680
720	3:59:30.45	+53:05:26.0	13.70	3.01	2.29	1.60	0.74	0.28	0.82	f4 IV:	1.246	1370
721	3:59:31.30	+53:40:47.9	13.62	3.65	2.58	1.59	0.78	0.29	0.66	a3 III	2.499	1010

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
722	3:59:32.62	+54:12:29.6	14.07	3.85	2.88	2.03	1.01	0.41	0.84	f1 IV	2.513	910
723	3:59:33.24	+53:25:38.4	14.55	3.65	2.79	2.07	0.93	0.35	0.84	f9.5 IV		
724	3:59:33.35	+53:49:08.4	13.32	3.43	2.54	1.79	0.86	0.31	0.77	f2 IV	1.993	710
725	3:59:34.05	+53:32:22.5	14.58	3.36	2.51	1.80	0.86	0.31	0.75	f5 IV-V **		
726	3:59:34.94	+53:15:19.6	14.48	4.24	2.96	1.98	1.04	0.39	0.84	b **		
727	3:59:36.48	+54:02:21.1	14.74	3.56	2.66	1.84	0.88	0.32	0.75	f2 III	2.056	1520
728	3:59:36.73	+54:10:56.4	15.26			2.04	1.24	0.46				
729	3:59:37.06	+53:30:08.8	13.85	3.42	2.58	1.85	0.87	0.31	0.81	f7 III	1.71	800
730	3:59:37.21	+53:06:06.3	12.57	3.05	2.35	1.65	0.77	0.29		f4 IV	1.405	341
731	3:59:37.24	+53:55:34.5	16.06			3.33	1.52	0.65	1.35	k1 IV		
732	3:59:37.81	+53:50:33.6	14.65	3.32	2.46	1.80	0.85	0.31	0.74	f6 IV	1.606	1240
733	3:59:37.82	+54:08:35.6	15.12			2.82	1.08	0.62	1.01	k4 V	1.12	245
734	3:59:37.87	+53:42:34.8	14.99	3.74	2.80	2.24	1.23	0.45	0.99	b8		
735	3:59:38.51	+53:30:41.3	14.40	3.35	2.50	1.79	0.85	0.31	0.75	f7 IV	1.621	1260
736	3:59:39.05	+53:13:30.2	15.58			2.84	1.15	0.64	1.18	k3.5 V	0.33	117
737	3:59:39.59	+53:35:54.8	16.57			2.87	1.25	0.67	0.96	k1.5 V		
738	3:59:39.88	+53:26:36.6	13.30		5.18	3.66	1.44	0.64	1.29	k4.2 III	1.965	1610
739	3:59:43.03	+53:15:06.0	13.02	3.85	2.68	1.64	0.80	0.30	0.66	a-f **		
740	3:59:45.02	+53:54:30.1	15.91			2.28	1.00	0.49	0.88	g8 V	1.576	1020
741	3:59:45.72	+53:22:21.5	16.83			2.41	1.04	0.53	1.01	k1 V		
742	3:59:45.75	+53:15:25.7	14.74	3.91	2.82	1.92	0.91	0.36	0.74	f **		
743	3:59:46.78	+53:07:16.5	13.06	3.25	2.39	1.52	0.69	0.27	0.72	f1 III		
744	3:59:47.11	+53:49:16.3	12.54	3.40	2.49	1.65	0.78	0.28	0.71	f2 III	1.786	650
745	3:59:47.70	+53:55:44.7	13.96	3.88	3.25	2.19	1.05	0.55	1.31	f7	2.097	980
746	3:59:47.77	+54:03:40.6	14.58	3.76	3.00	2.13	1.02	0.38	0.87	f8 IV	2.252	1000
747	3:59:48.01	+53:30:47.8	14.99	3.48	2.68	1.97	0.91	0.36	0.84	f9 IV	1.618	650
748	3:59:48.08	+54:09:44.9	11.98	4.70	4.02	2.73	1.18	0.51	0.75	k0.5 III:	1.581	289
749	3:59:49.16	+53:04:25.1	15.59			2.61	0.97	0.57		k5 V	0.933	345
750	3:59:50.00	+53:13:53.2	14.56	3.26	2.44	1.77	0.84	0.31	0.71	f6 IV	1.723	1210
751	3:59:50.24	+53:06:24.4	14.55	3.80	3.15	2.17	0.90	0.39	0.76	g9.5 IV	1.12	321
752	3:59:50.35	+53:26:49.5	11.36	4.91	4.14	2.87	1.19	0.48	1.12	k1 III	1.538	670
753	3:59:52.35	+53:27:22.7	14.42	3.66	2.84	2.06	0.94	0.36	0.87	f7 III	1.565	1520
754	3:59:52.47	+53:52:29.0	15.43	3.43	2.66	1.96	0.87	0.31	0.83	f8 IV	1.38	730
755	3:59:53.18	+54:11:24.0	14.41	3.79	2.72	1.67	0.94	0.35	0.84	b9.5 IV		
756	3:59:53.21	+53:50:42.3	14.90	3.57	2.63	1.80	0.86	0.32	0.75	f **		
757	3:59:53.52	+53:42:48.9	16.53			2.53	1.13	0.51	0.98	g **		
758	3:59:54.27	+53:11:52.5	13.52	3.27	2.45	1.67	0.79	0.30	0.84	f2 III:	1.526	1110
759	3:59:54.50	+53:42:25.6	10.68	5.16	4.36	3.12	1.28	0.55	1.18	k1.5 III		
760	3:59:54.72	+53:52:24.5	16.37			2.40	1.10	0.51	1.01	g8 **		
761	3:59:56.18	+53:53:13.6	10.61	2.71	1.93	1.04	0.54	0.19	0.46	b9.5 IV	1.859	650
762	3:59:57.89	+53:32:43.9	13.92	4.87	4.07	2.89	1.26	0.49	1.14	g9 III	2.098	530
763	3:59:58.01	+53:35:48.3	13.54	3.59	2.74	1.99	0.93	0.34	0.85	f6 III	1.747	850
764	3:59:58.14	+53:39:29.9	15.07			3.35	1.43	0.58	1.28	k1.5 III: *	''	**
765	4:00:00.25	+53:45:47.5	16.07			2.22	0.97	0.45	0.91	g8 V		
766	4:00:00.66	+53:55:16.5	13.34	4.89	3.73	2.80	1.35	0.48	1.18	f8 IV		
767	4:00:00.88	+53:49:39.5	12.24	5.38	4.51	3.20	1.34	0.52	1.20	k0 III	2.608	1980
768	4:00:01.07	+53:41:01.4	14.31	3.47	2.62	1.87	0.89	0.34	0.80	f4 IV	1.823	1100
769	4:00:01.62	+53:48:14.7	12.41	3.02	2.17	1.24	0.60	0.21	0.50	a **		
770	4:00:02.12	+53:35:16.9	13.84	4.84	4.02	2.77	1.14	0.49	1.06	k1 IV	1.801	590
771	4:00:02.16	+53:15:25.7	13.46	2.91	2.20	1.54	0.72	0.27	0.64	f3 V	1.13	580
772	4:00:02.82	+53:43:35.3	12.72	4.13	3.63	2.49	0.85	0.58	0.93	k6 V:	0.24	113
773	4:00:03.03	+53:58:43.2	14.04	4.08	2.80	1.88	1.00	0.37	0.82	a4 III		

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
774	4:00:03.72	+54:01:06.7	13.20	5.05	4.20	3.00	1.30	0.51	1.15	g9.5 III	2.316	345
775	4:00:03.79	+53:36:58.9	14.44	3.81	3.01	2.17	0.96	0.37	0.91	g2 III	1.452	550
776	4:00:04.17	+53:09:30.4	16.62			2.95:	1.13	0.73	1.03	k6 V		
777	4:00:04.61	+53:43:54.7	11.52	3.15	2.78	1.83	0.68	0.34	0.71	k1.7 V:	0.16	113
778	4:00:04.94	+54:09:39.4	14.81	3.60	2.80	2.06	1.13:	0.41	0.88	b4 IV:		
779	4:00:04.95	+53:53:26.2	13.26	4.95	4.07	2.88	1.25	0.48	1.10	g9.5 III	1.81	810
780	4:00:05.45	+53:38:43.2	13.87	3.69	2.65	1.64	0.79	0.28	0.64	a3 III	2.186	1280
781	4:00:06.31	+53:17:28.9	14.98	3.22	2.40	1.75	0.84	0.31	0.69	f5 IV	1.672	990
782	4:00:08.17	+53:58:49.9	13.91	3.48	2.48	1.56	0.75	0.27	0.63	a**		
783	4:00:08.31	+53:51:45.7	14.67	3.26	2.43	1.76	0.82	0.31	0.72	f6 IV	1.401	1550
784	4:00:08.73	+53:09:37.2	14.10			5.13	2.26	0.89	0.88	k5 III		
785	4:00:08.76	+53:31:10.0	14.31	3.44	2.53	1.76	0.83	0.31	0.76	f4 III	1.587	1400
786	4:00:09.47	+53:38:09.7	15.93			3.62	1.65	0.64	1.46	k0.5 III	3.561	2160
787	4:00:09.53	+54:11:37.2	14.80	3.42	2.61	2.01	1.26:	0.51	0.83	k1 III:		
788	4:00:09.78	+53:22:25.5	12.57			4.65	1.93	0.85	1.73	k1 III	3.54	880
789	4:00:09.81	+53:44:00.8	13.52	3.50	2.78	1.96	0.90	0.34	0.82	g1.5 III	1.599	670
790	4:00:10.87	+53:06:53.6	14.53	3.46	2.48	1.54	0.72	0.29	0.89	a7 III:		
791	4:00:11.13	+53:55:13.8	16.81			2.36	1.03	0.50	0.90	k		
792	4:00:11.40	+53:19:31.8	13.97			3.41	1.42	0.62	1.22	k2 III	2.38	910
793	4:00:11.85	+54:00:29.9	16.20			2.59:	1.06	0.54	0.96	k3 V		
794	4:00:12.24	+53:37:18.1	13.62	3.73	2.73	1.85	0.85	0.30	0.77	f2 III	1.602	870
795	4:00:12.72	+53:51:24.3	13.84	3.13	2.28	1.60	0.86	0.30	0.72	b7 V:	3.234	1660
796	4:00:13.15	+53:08:34.1	14.01	3.00	2.30	1.62	0.77	0.28	0.88:	f5 IV:	1.213	1180
797	4:00:13.40	+53:24:57.5	14.43	3.45	2.63	1.93	0.89	0.35	0.80	f6 IV	1.567	1390
798	4:00:13.79	+54:14:17.2	12.60	5.20	4.37	3.00	1.55	0.62:	0.75:	g5 III:		
799	4:00:14.06	+53:10:38.8	14.92	3.33	2.53	1.82	0.83	0.34	0.69	f7 III	1.335	1510
800	4:00:14.11	+53:30:26.5	13.97			3.79	1.63	0.68	1.42	k2.5 III	3.212	1090
801	4:00:14.26	+53:32:54.0	13.23	3.50	2.67	1.90	0.88	0.32	0.81	f4 III	1.54	810
802	4:00:14.59	+53:14:03.8	15.59			2.34	0.96	0.40	0.82	k0 IV	1.11	1890
803	4:00:14.91	+53:46:27.6	14.25	3.25	2.43	1.74	0.83	0.31	0.75	f6 IV	1.743	1040
804	4:00:14.93	+53:33:13.0	15.18	3.71	2.82	1.97	0.95	0.36:	0.82	f**		
805	4:00:15.16	+53:14:40.0	13.58	3.12	2.43	1.73	0.81	0.31	0.63	f5 IV	1.319	1130
806	4:00:15.77	+53:38:19.9	16.25			2.84	1.17	0.53	1.10	k1.7 V		
807	4:00:15.79	+53:17:50.7	11.92	2.79	2.04	1.10	0.53	0.19	0.38	a0 V	1.457	940
808	4:00:16.44	+54:01:20.2	10.59	2.85	2.31	1.60	0.74	0.28	0.65	f6 V	1.203	150
809	4:00:16.48	+53:09:30.6	13.44	3.15	2.33	1.43	0.66	0.25	0.82:	a8 IV:	1.18	820
810	4:00:16.88	+53:38:06.7	14.13			4.40	1.88	0.80	1.65	k4.2 III	3.736	1000
811	4:00:17.59	+53:19:21.1	16.62			2.31	0.99	0.44	1.00	k0.5 V		
812	4:00:17.78	+53:05:00.5	13.63	3.19	2.49	1.74	0.82	0.33	0.81	f5 IV	1.181	1230
813	4:00:17.89	+53:28:14.7	14.77			3.00	1.07	0.68	0.88	k7 V	0.76	159
814	4:00:18.20	+53:53:23.9	14.02	3.45	2.69	1.95	0.90	0.33	0.80	f9 IV	1.557	860
815	4:00:18.78	+54:02:07.3	15.87			2.76	1.16	0.63	0.91	k3 V		
816	4:00:19.06	+53:16:26.2	12.62	2.87	2.03	1.09	0.54	0.19	0.73	a1 IV:	1.4	1800
817	4:00:19.37	+54:06:19.2	14.92	3.67	2.93	2.06	1.12:	0.40:	0.89:	b5 IV:		
818	4:00:19.85	+53:08:57.7	13.54	3.63	2.84	2.03	0.93	0.38	0.80	f9.5 IV	1.243	760
819	4:00:19.94	+54:08:34.2	12.98	4.10	3.47	2.31	1.07:	0.46		g9.5 IV:		
820	4:00:20.76	+53:04:51.3	12.45	3.48	2.61	1.78	0.85	0.30	0.73	f1 IV	1.926	560
821	4:00:20.95	+53:58:58.2	13.26	5.19	4.35	3.01	1.27	0.52	1.11	k1 III	1.693	860
822	4:00:21.17	+53:37:28.0	12.02	3.25	2.30	1.29	0.64	0.22	0.52	a2 III	2.022	950
823	4:00:21.52	+53:46:35.7	16.05			2.42	1.01	0.41	0.97	k0 IV		
824	4:00:21.57	+53:08:39.8	14.43	3.94	2.64	1.71	0.94	0.35	0.86	b8		
825	4:00:21.59	+53:27:47.9	14.77	3.61:	2.71	1.92	0.93	0.35	0.79	f3 IV	2.208	1090

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
826	4:00:22.15	+53:43:57.7	13.11	3.12	2.60	1.81	0.76	0.31	0.73	g6 V	0.784	270
827	4:00:22.98	+53:45:26.7	12.31	3.14	2.47	1.73	0.80	0.29	0.73	f7 IV	1.276	464
828	4:00:23.82	+54:05:05.4	14.48	3.54	2.63	1.92	0.96	0.37	0.85	a8 III	2.04	1360
829	4:00:23.94	+53:22:03.5	13.98	3.45	2.66	1.91	0.90	0.33	0.81	f5 IV	1.806	810
830	4:00:24.40	+53:39:42.9	14.98			2.70	0.99	0.58	1.01	k4.5 V		
831	4:00:24.53	+53:14:32.3	13.40	3.07	2.27	1.46	0.69	0.26	0.55	f0 IV	1.287	710
832	4:00:24.59	+53:12:28.5	11.54	2.95	2.40	1.65	0.77	0.30	1.10	f7 IV:	1.231	376
833	4:00:24.91	+53:20:30.0	16.48			2.99	1.31	0.59	1.19	k1.7 V		
834	4:00:25.17	+54:11:39.9	13.91	3.76	2.77	1.79	1.08	0.46	0.83			
835	4:00:25.33	+53:25:53.0	13.23	3.64	2.70	1.87	0.88	0.32	0.79	f5 III	2.063	780
836	4:00:25.74	+53:07:41.9	14.33	3.76	3.03	2.09	0.92	0.37	0.82	g5 III		
837	4:00:26.84	+53:15:44.5	13.06	2.88	2.12	1.24	0.62	0.24	0.44	b **		
838	4:00:27.65	+53:38:02.6	12.51	3.37	2.59	1.82	0.85	0.32	0.77	f4 III	1.559	620
839	4:00:27.90	+54:03:42.5	11.66	3.13	2.32	1.30	0.63	0.22	0.69	a2 V	1.569	720
840	4:00:28.24	+53:06:37.4	14.26	3.22	2.48	1.76	0.82	0.37	0.85	f **		
841	4:00:28.55	+53:47:44.2	13.87	3.22	2.43	1.72	0.82	0.30	0.72	f4 III	1.695	590
842*	4:00:30.03	+53:04:29.2	9.57	2.66	1.98	1.04	0.47	0.18		a5 IV:	1.206	311
843	4:00:30.20	+53:20:03.5	14.96	3.72	3.00	2.07	0.92	0.37	0.77	g4 IV	1.29	1360
844	4:00:31.10	+53:44:07.1	15.42			2.58	1.13	0.52	0.96	k **		
845	4:00:31.23	+53:38:05.5	11.23	3.13	2.22	1.22	0.62	0.22	0.51	a1.5 III	1.995	610
846	4:00:33.31	+53:07:53.5	16.63			2.49	1.05	0.55	0.97	k1 V		
847	4:00:33.45	+53:15:07.2	15.86			3.42	1.59	0.62	1.02	k0 III:		
848	4:00:34.49	+53:43:26.7	14.45	3.49	2.76	1.96	0.86	0.35	0.79	g0 IV	1.204	1130
849	4:00:35.07	+54:07:40.1	14.26	3.79	2.76	1.64	0.95	0.40	0.87	b pec		
850	4:00:35.43	+53:07:10.4	11.74	2.72	2.10	1.41	0.67	0.24	0.63	a8 V:		
851	4:00:35.63	+53:35:32.8	16.51			2.55	1.11	0.52	0.96	k1 V		
852	4:00:36.29	+53:33:16.9	15.65			2.68	1.15	0.50	1.05	k1 IV	2.07	292
853	4:00:37.99	+53:07:44.7	16.70			2.30	1.07	0.56	0.00	g3 V		
854	4:00:38.36	+53:59:40.6	13.87	3.65	2.75	1.75	0.82	0.31	0.69	f4 IV	1.448	1220
855	4:00:38.83	+53:08:15.9	14.82	3.33	2.56	1.85	0.86	0.35	1.00	f5 IV:	1.299	1740
856	4:00:39.07	+53:22:34.5	13.72	4.36	3.37	2.38	1.11	0.43	0.95	g1.5 III	2.118	850
857	4:00:39.76	+54:07:17.7	16.03			2.74	1.30	0.65	1.00	g6 V:		
858	4:00:40.32	+53:39:12.9	13.03		4.82	3.46	1.43	0.62	1.32	k2.2 III		
859	4:00:41.17	+53:54:59.9	15.08			2.89	1.10	0.69	0.86	m1 V	1.13	224
860	4:00:41.17	+53:17:35.6	15.54			2.34	1.02	0.46	0.91	k0.7 V		
861	4:00:41.88	+53:11:51.9	14.07	3.22	2.49	1.76	0.81	0.32	0.00	f6 IV	1.304	1230
862	4:00:43.62	+53:25:43.0	14.26	3.72	2.59	1.71	0.93	0.33	0.71	b9 III		
863	4:00:43.83	+53:17:21.1	12.54	3.63	2.98	2.01	0.86	0.37	0.74	g5.5 III		
864	4:00:44.35	+53:40:02.3	10.78	3.18	2.45	1.67	0.78	0.28	0.74	f3 IV	1.791	158
865	4:00:45.05	+53:18:52.9	15.78			3.39	1.47	0.63	0.98	k1.5 III:	2.89	870
866	4:00:46.10	+53:46:50.0	15.08	3.44	2.55	1.68	0.81	0.30	0.70	f1 IV	1.938	1610
867	4:00:46.81	+53:32:22.6	14.91	3.66	2.84	2.06	0.95	0.37	0.85	f7 III	1.651	1180
868	4:00:46.91	+53:44:13.6	13.25	3.28	2.36	1.38	0.68	0.26	0.48	a1.5 IV	2.074	1250
869	4:00:47.08	+53:07:46.1	12.81	4.86	3.98	2.78	1.17	0.48	0.99	k0 III	1.371	444
870	4:00:47.50	+53:45:55.5	14.62	3.06	2.29	1.61	0.76	0.28	0.66	f4 III	1.386	960
871	4:00:47.94	+53:36:07.8	16.68			2.62	1.11	0.54	0.99	k2 V		
872	4:00:48.40	+53:33:19.4	13.82		4.10	2.94	1.26	0.50	1.09	k0 III	1.909	1010
873	4:00:48.59	+53:41:26.2	12.02	3.41	2.46	1.44	0.69	0.25	0.57	a4 III	2.018	590
874	4:00:48.84	+53:27:37.5	15.45			3.22	1.12	0.78		k7 V	1.68	153
875	4:00:49.63	+54:03:25.6	14.80	3.68	2.86	2.07	1.05	0.47	0.98	a-f		
876*	4:00:49.68	+53:22:37.3	9.93	1.88	1.45	1.02	0.49	0.20	0.45	a1.5 IV:		
877	4:00:49.88	+53:04:55.9	15.51			3.41	1.49	0.67	0.97	k1.2 III:	2.478	1680

Table A.3. Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A_V mag	d pc
878	4:00:51.07	+54:04:14.3	15.94			3.37	1.56	0.66		k1.5 V		
879	4:00:51.66	+53:54:28.3	15.69			3.49	1.60	0.64	0.99	k0.5 III:	3.043	780
880	4:00:51.77	+53:48:53.3	13.68	3.12	2.30	1.35	0.63	0.23	0.52	a6 IV	1.176	910
881*	4:00:52.03	+53:22:45.8	10.22	1.96	1.50	0.98	0.50	0.21	0.32	b5 IV:		
882	4:00:52.12	+53:12:26.5	14.51	3.69	2.91	2.09	0.93	0.41	0.79	g2 IV	1.331	1080
883	4:00:52.52	+53:18:22.0	11.38	2.61	2.08	1.41	0.64	0.23	0.57	f6 V:	0.815	259
884	4:00:53.66	+54:07:03.7	16.67			2.49:	1.33:	0.75:	1.04	a		
885	4:00:55.27	+53:45:29.1	12.82	3.21	2.36	1.51	0.71	0.28	0.62	f0 III	1.611	500
886	4:00:56.48	+53:10:19.4	16.75			2.23	0.94	0.44	1.05	k1 V		
887	4:00:57.79	+53:29:26.1	14.51	3.75	2.79	2.00	0.94	0.35:	0.90	f6 III	1.818	1180
888	4:00:57.96	+53:29:09.8	14.67	3.73	2.80	2.04	0.92	0.37:	0.76	f9 IV	1.386	1180
889	4:00:58.24	+53:31:26.9	15.33			2.43	1.02	0.47	0.93	k1.5 V	1.432	339
890	4:00:58.27	+53:48:33.0	15.44	3.42	2.65	1.93	0.88	0.34	0.75	f7 III	1.56	1720
891	4:00:59.26	+53:47:41.3	15.34	3.36	2.58	1.90	0.88	0.35	0.74	f5 IV	1.531	1240
892	4:00:59.52	+53:37:38.9	13.85	3.32	2.64	1.87	0.84	0.32	0.77	g1.5 III	1.277	880
893	4:01:00.05	+53:21:37.4	13.63	3.14	2.47	1.75	0.81	0.32	0.62:	f7 IV	1.196	1220
894	4:01:00.82	+53:09:00.8	12.49	3.00	2.16	1.17	0.58	0.20	0.42	a1 IV	1.717	1300
895	4:01:01.37	+53:50:46.5	12.96	3.56	2.77	1.99	0.95	0.37	0.75	f6 IV	1.81	580
896	4:01:02.16	+53:07:52.0	13.40	3.35	2.74	1.87:	0.87:	0.33	0.76	g0 IV	1.618	780
897	4:01:02.67	+53:46:24.4	14.61	3.28	2.53	1.83	0.85	0.34	0.76	f5 IV	1.486	900
898	4:01:02.77	+53:38:55.1	13.54	4.91	4.13	2.86	1.23	0.47	1.04	k0 III		
899	4:01:02.84	+53:08:29.4	13.12	3.97	3.26	2.27	1.00	0.37	0.88	g5 III	1.102	610
900	4:01:03.11	+53:40:20.0	13.69	3.26	2.38	1.38	0.65	0.25	0.48	a**		
901	4:01:03.40	+53:32:44.1	13.27	3.13	2.39	1.68	0.79	0.29	0.64	f4 IV	1.469	750
902	4:01:03.77	+53:40:57.7	16.34			2.32	1.00	0.45		k1 V		
903	4:01:03.77	+53:58:25.9	16.64			2.32	1.03	0.49		k0 V		
904	4:01:03.85	+54:00:04.7	14.26	3.55	2.81	1.99	1.05:	0.43:	0.90:	a		
905	4:01:04.05	+53:52:09.1	12.58	2.99	2.42	1.72	0.76	0.30	0.61	g1 V	0.855	610
906	4:01:05.06	+53:49:02.5	14.66			2.84	1.19	0.51	1.06	k1 IV	1.922	810
907	4:01:05.63	+53:43:51.8	14.77	3.38	2.62	1.86	0.85	0.32	0.74	f8 IV	1.348	1360
908	4:01:05.86	+53:29:46.5	12.01	3.22	2.49	1.75	0.82	0.29	0.67	f5 IV	1.415	520
909	4:01:06.94	+53:07:44.3	13.26	3.10	2.44	1.66	0.86	0.42	0.85	a0 V:		
910	4:01:07.17	+53:34:30.1	12.61	3.17	2.36	1.55	0.74	0.26	0.61	f1 III	1.693	439
911	4:01:07.65	+54:00:13.5	16.40			2.46	1.17	0.57:	1.03	g2 V:		
912	4:01:08.31	+53:41:04.3	14.98	3.86	2.69	1.69	0.77	0.30	0.60	a4 III		
913	4:01:08.48	+53:12:28.6	11.54	2.55	2.00	1.32	0.62	0.27:	0.93	f4 IV:		
914	4:01:09.00	+53:09:43.3	13.27	4.25	3.59	2.43	1.07	0.52	0.89	k0 V:		
915	4:01:10.41	+53:16:49.5	14.81			2.92	0.99	0.74	0.84	k7 V:	0.755	163
916	4:01:10.57	+53:27:08.7	14.53	3.45	2.57	1.81	0.87	0.33	0.97	f3 IV:	1.993	1240
917	4:01:11.89	+53:36:26.3	12.30		5.20	3.61	1.42	0.63	1.28	k3.7 III	1.941	1010
918	4:01:12.76	+54:05:57.8	13.50	3.50	2.70	1.83	1.12:	0.48:	0.81	b		
919	4:01:13.92	+53:47:00.2	14.77	3.23	2.43	1.79	0.97	0.38	0.70	b6 V:	3.413	2100
920	4:01:14.06	+53:49:31.0	15.21			2.54	1.08	0.45	0.98	k0 III	1.781	1170
921	4:01:14.60	+53:59:37.5	13.56	3.37	2.55	1.74	0.96:	0.40:	0.78:	b**		
922	4:01:15.97	+53:50:54.5	13.84	3.33	2.63	1.85	0.86	0.33	0.86	f7 IV:	1.486	1230

Notes:

3. HD 24094 (B8), BD+53 708, CY Cam, B2 (Rydström 1978), B1 III (Bouigue 1959); **72.** HD 24203 (G0), BD+52 722, dG0 (Rydström 1978); WDS J03537+5316AB, sep. 0.2'' (Hartkopf et al. 2008); **94.** ALS 7793, B1 V (Hiltner 1956); **111.** BD+53 710, ALS 7795, B5 (Rydström 1978); **235.** HD 24386 (F8), BD+53 712,

F8 V (Boulon et al. 1958); **279.** HD 232856 (G5), BD+53 713, G0 III; **391.** WDS J03568+5335A, sep. 9.7", 11.0/13.8 mag, M1.5; **404.** NSVS 1985024, EB: (Wozniak et al. 2004; Hoffman et al. 2009); **490.** BD+53 715; **574.** BD+53 716, B5 (Rydström 1978); **842.** HD 232867 (A2), BD+52 732; **876.** BD+52 736A, WDS J04008+5323A, A0 (AGK3), B5 (Rydström 1978); **881.** BD+52 736B, WDS J04008+5323B.

A.4. VATT photometry and classification of stars in the Sh2-205 area

Table A.4.: The data catalog of stars in the $12' \times 12'$ area in the vicinity of the nebula Sh2-205 measured in the Vilnius seven-colour system from the VATT CCD exposures. The stars are numbered starting from 1001 to avoid confusion with the Maksutov catalog A.3. The running numbers, coordinates, V magnitudes, six color indices, photometric spectral types, interstellar extinctions and distances are given. The stars with two asterisks in the last column are unresolved binaries.

No.	RA (J2000)	DEC (J2000)	V	$U-V$	$P-V$	$X-V$	$Y-V$	$Z-V$	$V-S$	Photom.	A_V	d
	h m s	° ' "	mag	mag	mag	mag	mag	mag	mag	sp. type	mag	pc
1001	3:58:12.90	+53:41:45.3	18.002	4.963	4.314	3.010	1.290	0.583	1.240	k2 V	2.315	610
1002	3:58:13.76	+53:40:56.3	19.407			2.665	1.426	0.470	1.237	a-f		
1003	3:58:14.23	+53:41:19.9	19.070			3.301	1.641	0.543	1.423	g		
1004	3:58:14.41	+53:39:16.4	18.118	4.680	3.975	2.826	1.147	0.518	1.129	k2 IV	1.555	830
1005	3:58:14.74	+53:35:02.1	17.043	6.341	5.615	3.973	1.794	0.678	1.620	k2 III	3.84	3310
1006	3:58:15.71	+53:34:43.5	17.629			3.839	1.718	0.656	1.588	k1.5 III	3.635	4820
1007	3:58:15.82	+53:33:39.3	18.069			2.826	1.210	0.520	1.233	k2 V	2.183	720
1008	3:58:15.96	+53:44:06.3	16.618	3.911	3.096	2.136	1.052	0.337	0.953	f	2.291	3060
1009	3:58:16.07	+53:36:04.9	18.237	5.084	3.784	2.712	1.321	0.494	1.191	f-g	2.966	4620
1010	3:58:16.10	+53:36:48.5	15.464	3.499	2.683	1.862	0.887	0.325	0.870	f5 III	1.7	2360
1011	3:58:16.90	+53:36:48.7	17.474	3.909	3.201	2.258	1.001	0.388	1.024	k0 V	1.68	950
1012	3:58:16.90	+53:38:59.3	18.116		4.223	3.239	1.566	0.608	1.372	g7 V:	4.127	540
1013	3:58:16.93	+53:39:12.0	19.407			2.679	1.346	0.465	1.181	f-g		
1014	3:58:17.76	+53:42:01.8	13.374	4.067	2.850	1.745	0.876	0.303	0.736	a5 III	2.629	1020
1015	3:58:19.42	+53:36:58.9	17.205	4.576	4.021	2.725	1.095	0.565	1.118	k4 V	1.45	590
1016	3:58:19.88	+53:34:37.1	17.753	4.731	3.612	2.371	1.162	0.413	0.986	f9 III-IV		
1017	3:58:20.06	+53:36:00.8	17.971	4.952	4.259	3.004	1.205	0.658	1.262	k4 V	1.91	680
1018	3:58:22.37	+53:33:56.2	14.489	3.929	3.098	2.145	0.995	0.338	0.935	g3 III-IV	1.724	1460
1019	3:58:22.37	+53:34:17.6	18.847			3.306	1.220	0.657	1.324			
1020	3:58:22.55	+53:38:41.9	14.125	3.431	2.621	1.842	0.879	0.323	0.835	f8 IV	1.655	900
1021	3:58:22.66	+53:43:46.4	13.141	3.780	2.781	1.863	0.897	0.285	0.817	f0 IV:	2.4	530
1022	3:58:23.30	+53:40:20.0	18.974	4.479	3.504	2.641	1.242	0.472	1.184	f-g		
1023	3:58:23.48	+53:34:39.0	16.705	3.944	3.190	2.369	1.278	0.429	1.081	b orf,md:		
1024	3:58:23.63	+53:38:26.1	18.073	4.828	3.868	2.887	1.433	0.520	1.294	f-g	3.54	750
1025	3:58:23.63	+53:34:28.8	19.442			2.803	1.216	0.534	1.288	k2 V	2.482	1290
1026	3:58:23.92	+53:45:14.3	17.852	4.972	4.299	2.936	1.174	0.547		k:		
1027	3:58:24.64	+53:35:45.7	19.344			2.710	1.279	0.499	1.227	g8:		
1028	3:58:25.03	+53:34:16.0	16.773	4.339	3.708	2.502	1.094	0.432	1.043	k0 IV:	1.631	2560
1029	3:58:25.14	+53:41:44.3	18.418			2.789	1.408	0.467	1.208	f9:		
1030	3:58:25.18	+53:37:11.5	15.880	4.171	3.508	2.433	1.082	0.419	1.060	g8 IV	1.983	1440
1031	3:58:26.04	+53:37:46.5	18.170	4.223	3.515	2.536	1.191	0.446	1.114	g6 V	2.574	1220
1032	3:58:26.15	+53:33:35.8	19.517			2.826	1.363	0.432	1.338	g5:		
1033	3:58:26.22	+53:42:20.3	14.134	4.001	2.907	1.853	0.881	0.303	0.767	a5 III	2.81	1330
1034	3:58:26.69	+53:38:04.7	17.786	4.888	4.361	2.965	1.196	0.638	1.207	k4.2 V	1.592	630
1035	3:58:27.12	+53:40:31.4	18.789			2.982	1.207	0.624	1.205	k0 III	1.616	990
1036	3:58:27.26	+53:37:30.2	16.469	3.952	3.082	2.256	1.113	0.403	1.025	f5 V	2.928	1020
1037	3:58:28.70	+53:32:58.3	17.141	4.592	3.700	2.659	1.251	0.408	1.162		2.468	5680
1038	3:58:28.88	+53:39:56.7	16.007	4.827	4.176	2.838	1.158	0.564	1.110	k3 V	1.92	315
1039	3:58:29.64	+53:37:07.6	14.528	3.502	2.748	1.940	0.929	0.332	0.860	f5 V	2.129	600
1040	3:58:29.71	+53:40:36.8	14.470	5.677	4.877	3.398	1.436	0.595	1.306	k2 III		
1041	3:58:30.32	+53:43:10.4	18.739			3.673	1.477	0.796	1.431	k5 V:		
1042	3:58:30.68	+53:36:10.0	16.933	4.393	3.313	2.178	1.129	0.388	0.942	a5 IV	3.628	2520
1043	3:58:30.79	+53:34:08.9	17.732	4.528	3.518	2.448	1.237	0.417	1.092	a9 IV	4.008	1680

Table A.4.: Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1044	3:58:31.87	+53:36:19.4	18.125	4.072	3.312	2.375	1.126	0.418	1.060	g2 IV	2.459	3580
1045	3:58:31.91	+53:33:57.9	18.792		3.934	2.723	1.470	0.454	1.306	a		
1046	3:58:32.88	+53:34:59.8	16.785	3.631	2.973	2.093	1.004	0.351	0.923	f8 V	1.9	1220
1047	3:58:33.42	+53:37:11.4	15.811	4.302	3.259	2.183	1.084	0.372	0.975	a7 V	3.547	1030
1048	3:58:33.42	+53:34:42.9	18.236	4.231	3.533	2.480	1.140	0.435	1.087	g8 IV:	2.087	4070
1049	3:58:33.64	+53:40:46.4	18.569	4.337	3.514	2.707	1.330	0.547	1.173	g	3.065	1220
1050	3:58:33.78	+53:43:12.8	16.070	3.907	3.163	2.268	1.089	0.393	0.977	f9 IV	1.278	2180
1051	3:58:34.18	+53:37:16.9	19.069			2.952	1.546	0.552	1.300	a5 V, mr:	5.47	2290
1052	3:58:34.93	+53:35:11.1	18.347			3.252	1.572	0.599	1.403	g6 IV	3.903	1860
1053	3:58:35.44	+53:43:07.3	15.121	3.751	2.956	2.081	1.005	0.327	0.914	f6 V	2.336	670
1054	3:58:35.44	+53:37:25.8	16.607	4.464	3.767	2.654	1.104	0.495	1.151	k2 V	2.02	434
1055	3:58:37.24	+53:37:01.2	19.142			2.858	1.531	0.568	1.289	a3:		
1056	3:58:37.42	+53:42:18.3	16.600	4.099	3.260	2.344	1.135	0.388	1.031	f-g	2.391	1210
1057	3:58:37.88	+53:39:34.5	17.631			3.926	1.879	0.712	1.667	k0 III	4.46	3110
1058	3:58:38.06	+53:41:13.1	19.199			3.098	1.532	0.608	1.371	g5 V:	3.99	1100
1059	3:58:39.18	+53:35:22.8	15.906	3.381	2.704	1.912	0.908	0.307	0.864	f8 V	1.728	1090
1060	3:58:39.25	+53:35:35.9	18.441	4.556	3.511	2.341	1.189	0.436	0.984	a5 V, mr:	3.93	3490
1061	3:58:39.47	+53:35:07.0	16.329	5.635	4.822	3.514	1.618	0.607	1.445	g8 III	3.39	2810
1062	3:58:39.47	+53:37:45.3	18.983			2.640	1.403	0.484	1.255	a:		
1063	3:58:39.50	+53:41:01.0	15.486	3.914	3.134	2.233	1.058	0.369	0.981	g1.5 IV	1.945	3220
1064	3:58:39.72	+53:33:45.2	18.850			3.346	1.740	0.614	1.590	f5:		
1065	3:58:39.90	+53:40:07.1	16.990	5.407	4.797	3.302	1.264	0.738	1.302	k7 V	1.49	316
1066	3:58:40.04	+53:34:46.6	15.060	3.863	2.897	1.868	0.916	0.295	0.811	a6 IV	2.803	1450
1067	3:58:40.30	+53:37:46.5	14.340	3.653	2.927	2.347	1.285	0.438	1.091	b1:		
1068	3:58:40.73	+53:44:31.2	17.815	4.816	3.754	2.570	1.303	0.456	1.042	a7 V	4.301	1830
1069	3:58:40.87	+53:36:01.9	15.788	6.127	5.310	3.830	1.736	0.661	1.526	k0 III	4.122	1560
1070	3:58:40.87	+53:37:21.1	17.736	5.047	4.440	3.013	1.216	0.644	1.248	k4.5 V	1.747	570
1071	3:58:41.66	+53:37:06.5	18.220	4.957	3.917	2.890	1.439	0.496	1.291	g	3.501	5600
1072	3:58:42.28	+53:39:21.5	14.164	4.343	3.752	2.498	0.999	0.474	1.011	k3 V	1.16	190
1073	3:58:42.38	+53:36:21.2	16.971	3.958	3.176	2.317	1.107	0.396	1.060	g0 V	2.512	1080
1074	3:58:42.38	+53:37:41.9	18.400	4.289	3.601	2.613	1.227	0.464	1.175	g8 V:	2.683	1110
1075	3:58:43.00	+53:38:41.1	17.332	4.625	3.550	2.375	1.213	0.422	1.031	a5 V	4.063	1970
1076	3:58:43.68	+53:35:45.6	16.530	3.598	2.786	2.031	0.997	0.332	0.942	g, md:	2.132	1200
1077	3:58:43.79	+53:38:38.0	16.975	4.079	3.348	2.427	1.184	0.429	1.108	g0 V	2.763	960
1078	3:58:43.79	+53:34:44.3	18.790			2.694	1.365	0.486	1.223	**		
1079	3:58:43.97	+53:35:39.5	15.504	4.119	3.457	2.358	1.040	0.402	0.970	g:		
1080	3:58:44.00	+53:39:25.9	17.237	4.744	4.116	2.793	1.144	0.569	1.152	k3.7 V	1.735	540
1081	3:58:44.08	+53:39:31.1	15.902	3.832	3.172	2.218	1.018	0.402	0.954	g5 V	1.836	650
1082	3:58:44.11	+53:44:28.4	18.090	5.509	4.104	2.776	1.450	0.513	1.145	a5:		
1083	3:58:44.29	+53:34:43.2	17.555	4.152	3.433	2.435	1.126	0.401	1.072	g5 IV	2.338	2780
1084	3:58:44.36	+53:35:16.2	16.845	5.686	5.026	3.531	1.665	0.604	1.470	g8 III:	3.942	2630
1085	3:58:44.44	+53:40:48.7	15.834	3.464	2.705	1.940	0.934	0.304	0.893	f5 IV	2.163	1710
1086	3:58:44.44	+53:42:01.2	18.773			3.028	1.491	0.533	1.322	g3 V:	3.909	1060
1087	3:58:45.05	+53:37:23.5	19.296			2.988	1.528	0.563	1.309	f9:		
1088	3:58:45.19	+53:44:41.2	17.383	3.872	3.164	2.325	1.126	0.396	0.989	g0 V	2.398	1370
1089	3:58:45.23	+53:41:29.8	16.923	3.975	3.230	2.363	1.099	0.427	1.072	g2 IV-V	2.462	1390
1090	3:58:45.34	+53:40:11.4	17.646	3.917	3.186	2.281	1.107	0.384	1.065	g0 V	2.45	1510
1091	3:58:45.37	+53:37:52.8	13.747	3.404	2.518	1.691	0.823	0.284	0.779	f0 IV-V	2.083	710
1092	3:58:45.59	+53:44:45.4	16.864	4.058	3.291	2.422	1.162	0.404	1.054	g2.5 V	2.391	760
1093	3:58:46.88	+53:43:35.0	18.366	4.555	3.818	2.731	1.270	0.510	1.173	g9 V	2.75	960
1094	3:58:46.88	+53:38:45.8	18.643		3.719	2.624	1.332	0.493	1.159	f:		
1095	3:58:47.21	+53:36:59.4	17.717	4.576	3.777	2.743	1.343	0.472	1.224	g4 V	3.203	850

Table A.4.: Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1096	3:58:47.32	+53:36:26.2	16.651	3.704	2.970	2.130	1.036	0.366	0.987	f7 V	2.415	1210
1097	3:58:47.42	+53:43:56.9	16.444	3.736	2.925	2.117	1.049	0.378	0.952	f5 IV-V	2.558	1500
1098	3:58:47.57	+53:38:04.2	19.121			2.818	1.401	0.542	1.250	g2 V:	3.479	1620
1099	3:58:48.00	+53:36:28.9	14.670	3.254	2.505	1.783	0.870	0.298	0.830	g, md:	1.882	720
1100	3:58:48.22	+53:44:46.1	18.049	4.801	3.983	2.982	1.473	0.516	1.278	g2 V	3.555	630
1101	3:58:48.43	+53:39:39.9	16.703	4.590	3.504	2.441	1.268	0.447	1.085	f0 III	3.812	1990
1102	3:58:48.47	+53:39:56.1	15.872	4.007	3.066	2.099	1.036	0.382	0.917	f0 IV-V	3.004	1240
1103	3:58:48.79	+53:37:22.3	17.980	4.833	3.801	2.502	1.276	0.440	1.110	a5 V:	4.412	2260
1104	3:58:48.86	+53:34:55.8	18.833	4.395	3.681	2.633	1.243	0.471	1.174	g6 IV	2.715	4150
1105	3:58:48.94	+53:38:09.1	16.661			3.905	1.836	0.697	1.597	k0 III	4.33	2120
1106	3:58:49.08	+53:37:30.8	18.704	4.738	3.912	2.918	1.463	0.481	1.350	g1.5 V	3.797	1020
1107	3:58:49.22	+53:39:17.5	15.652	3.485	2.741	1.963	0.921	0.325	0.878	f8 IV	1.57	820
1108	3:58:49.91	+53:38:40.5	18.133	5.014	4.379	3.018	1.210	0.688	1.226	k7 V:	1.586	740
1109	3:58:50.09	+53:37:59.4	13.566	5.993	5.204	3.612	1.514	0.642	1.388	k3 III	2.49	1300
1110	3:58:50.34	+53:36:37.8	18.668			2.758	1.244	0.564	1.157	k0.5 V:	2.538	1060
1111	3:58:50.45	+53:37:07.3	19.340			2.706	1.485	0.477	1.279	b-a		
1112	3:58:50.74	+53:38:22.8	17.148	3.920	3.200	2.317	1.117	0.409	1.060	g0 V	2.507	1170
1113	3:58:51.49	+53:33:12.7	16.243	4.698	3.999	2.713	1.178	0.456	1.170	k0 III-IV	1.92	3050
1114	3:58:51.64	+53:39:11.6	16.967	4.343	3.446	2.501	1.248	0.452	1.132	f6 V	3.397	950
1115	3:58:51.85	+53:38:46.4	17.079	4.398	3.398	2.531	1.341	0.476	1.147	f, md:	3.639	970
1116	3:58:51.96	+53:39:37.9	18.427	4.220	3.483	2.535	1.181	0.479	1.112	g8 V	2.449	1250
1117	3:58:52.14	+53:42:59.3	18.668	4.316	3.774	2.773	1.322	0.481	1.236	g:		
1118	3:58:52.18	+53:39:32.9	19.063			2.910	1.231	0.531	1.258	k3 V	2.2	1130
1119	3:58:52.46	+53:33:16.7	17.417	5.744	5.052	3.541	1.393	0.740	1.400	k5 V:		
1120	3:58:53.72	+53:36:35.9	18.186	4.904	4.150	2.956	1.184	0.609	1.221	k3.7 V	1.607	750
1121	3:58:53.76	+53:37:08.0	19.428			2.759	1.434	0.597	1.240	f5 V:	4.103	2320
1122	3:58:54.12	+53:40:26.6	19.051			3.131	1.304	0.723	1.261	k-m V		
1123	3:58:54.16	+53:38:39.6	17.734	4.370	3.460	2.513	1.271	0.501	1.098	f5 IV	3.452	2270
1124	3:58:54.16	+53:36:34.1	19.096			2.650	1.390	0.534	1.225	**		
1125	3:58:54.19	+53:34:53.9	16.429	3.733	2.900	2.081	0.998	0.349	0.956	f7 III	1.93	1020
1126	3:58:54.55	+53:36:13.5	15.890	3.509	2.775	1.967	0.953	0.335	0.877	f5 IV	1.8	970
1127	3:58:54.59	+53:40:56.7	15.472	3.941	3.041	2.175	1.061	0.392	0.992	f5 III	2.752	1460
1128	3:58:55.16	+53:37:41.3	18.227	5.108	4.254	3.052	1.543	0.560	1.378	**		
1129	3:58:55.24	+53:42:25.8	16.917	4.251	3.645	2.557	1.154	0.467	1.082	k0 V	2.179	590
1130	3:58:55.24	+53:38:04.1	18.053	3.859	3.153	2.299	1.114	0.412	1.017	g0 V	2.4	1860
1131	3:58:55.52	+53:38:46.9	18.143			3.707	1.804	0.647	1.623	g:		
1132	3:58:55.56	+53:36:45.2	16.256	3.566	2.849	2.048	0.970	0.346	0.929	g0 V	1.837	1060
1133	3:58:56.35	+53:42:59.5	18.833			3.319	1.322	0.711	1.348	k5 V	2.327	730
1134	3:58:56.71	+53:33:30.5	19.505			2.721	1.376	0.549	1.269	f9:		
1135	3:58:56.82	+53:37:41.6	16.509	6.024	5.211	3.815	1.781	0.668	1.569	k0 III:	4.14	2160
1136	3:58:57.04	+53:34:16.5	16.613	3.777	2.927	2.081	1.024	0.356	0.941	f2 IV:	2.781	2020
1137	3:58:57.07	+53:37:13.1	16.959	4.129	3.510	2.404	1.038	0.436	1.037	k1 V	1.59	670
1138	3:58:57.07	+53:40:01.8	19.193			2.608	1.269	0.520	1.199	g4 V:	2.936	1890
1139	3:58:57.29	+53:40:39.4	15.046	4.803	4.218	2.922	1.092	0.658	1.184	k6 V	1.02	193
1140	3:58:57.32	+53:35:58.3	16.457	5.726	4.869	3.519	1.648	0.608	1.474	g9 III	3.7	2520
1141	3:58:57.79	+53:39:46.5	19.344			2.809	1.452	0.482	1.316	f7:		
1142	3:58:58.08	+53:40:43.0	18.931		3.584	2.611	1.212	0.462	1.179	g:		
1143	3:58:58.94	+53:44:29.6	17.326	4.296	3.577	2.623	1.209	0.481	1.133	k0 V	2.364	650
1144	3:58:59.84	+53:40:12.2	17.714	4.919	4.275	2.906	1.187	0.585	1.193	k3 V	2.176	630
1145	3:58:59.95	+53:40:57.3	17.658	4.386	3.701	2.550	1.107	0.477	1.077	k1 V	1.955	830
1146	3:59:00.42	+53:41:56.4	18.713			2.858	1.463	0.538	1.305	f7 V:	4.15	1400
1147	3:59:01.03	+53:42:01.4	16.904	3.929	3.206	2.323	1.059	0.406	1.042	g3 V	2.288	950

Table A.4.: Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1148	3:59:01.18	+53:44:40.7	18.764	4.401	3.792	2.707	1.224	0.455	1.158	k1.5 V	2.383	1100
1149	3:59:01.39	+53:36:41.5	18.468	4.159	3.357	2.543	1.279	0.484	1.091	f9 V	3.03	1810
1150	3:59:01.50	+53:33:06.7	17.869	4.577	3.561	2.492	1.243	0.443	1.102	a5, mr:	3.033	3440
1151	3:59:01.57	+53:42:42.6	18.233	4.153	3.337	2.526	1.169	0.467	1.078	g3 V:	2.688	1460
1152	3:59:01.72	+53:35:57.9	19.460			2.686	1.395	0.509	1.209	f2 V:	4.252	2760
1153	3:59:01.75	+53:37:04.2	17.898	4.267	3.583	2.548	1.131	0.471	1.100	k0 V	2.206	910
1154	3:59:01.93	+53:34:38.7	19.479			2.750	1.349	0.490	1.262	g0 V:	3.574	2090
1155	3:59:01.97	+53:35:16.0	17.453	4.149	3.503	2.537	1.125	0.519	1.095	k1 V	1.948	760
1156	3:59:02.15	+53:43:05.5	17.134	4.840	4.151	2.898	1.206	0.577	1.190	k3 V	2.143	477
1157	3:59:02.62	+53:33:02.1	18.594	4.580	3.778	2.678	1.235	0.445	1.168	g **		
1158	3:59:02.80	+53:37:01.9	16.528	5.786	4.741	3.515	1.683	0.639	1.482	g5 II-III	4.355	1800
1159	3:59:03.08	+53:38:18.8	16.849	5.065	4.385	3.110	1.231	0.707	1.280	k5 V	1.849	363
1160	3:59:03.23	+53:35:10.9	18.907			2.787	1.318	0.542	1.226	g8 V:	3.062	1170
1161	3:59:03.30	+53:41:01.9	16.304	5.937	5.115	3.727	1.763	0.678	1.561	k0 III-IV	4.25	1070
1162	3:59:03.30	+53:45:02.8	17.542	4.248	3.381	2.478	1.227	0.449	1.082	f8 IV	3.048	2280
1163	3:59:03.59	+53:39:06.9	16.309	4.303	3.668	2.510	1.036	0.479	1.048	k3 V	1.229	497
1164	3:59:03.73	+53:35:54.6	17.326	4.388	3.798	2.619	1.110	0.542	1.076	k2.5 V	1.632	690
1165	3:59:04.13	+53:34:20.3	18.341			3.666	1.710	0.697	1.476	k0 IV	4.318	1530
1166	3:59:04.27	+53:39:07.6	18.301	4.603	4.015	2.828	0.998	0.612	1.188	k-m V		
1167	3:59:04.42	+53:37:05.2	18.412	4.197	3.377	2.580	1.256	0.484	1.124	g2.5 V	2.771	1300
1168	3:59:04.42	+53:41:38.4	18.414	4.418	3.209	2.711	1.251	0.524	1.156	g8:		
1169	3:59:05.03	+53:33:18.5	16.119	3.931	3.171	2.256	1.042	0.379	0.987	g	1.857	4550
1170	3:59:05.24	+53:34:53.9	15.558	3.665	2.734	1.894	0.935	0.344	0.856	f2 III	2.374	1980
1171	3:59:05.46	+53:34:16.8	17.855			3.604	1.511	0.792	1.555	k7 V	2.53	292
1172	3:59:06.07	+53:43:55.6	14.492	3.727	2.694	1.633	0.786	0.274	0.660	a5 IV:	2.269	1530
1173	3:59:06.61	+53:43:15.8	19.502			2.652	1.388	0.484	1.172	f0:		
1174	3:59:06.76	+53:43:29.6	18.963			2.808	1.388	0.505	1.141	g0 IV:	3.494	3420
1175	3:59:06.90	+53:37:54.7	16.859	4.159	3.258	2.381	1.194	0.457	1.084	f7 IV-V	2.987	1340
1176	3:59:07.48	+53:38:35.6	14.588	3.442	2.802	1.977	0.911	0.356	0.868	g1.5 IV-V	1.422	456
1177	3:59:07.66	+53:34:16.4	19.254			2.699	1.336	0.486	1.206	g0 V:	3.385	2060
1178	3:59:07.87	+53:36:33.3	16.164	3.794	2.867	1.953	0.985	0.349	0.859	f0 IV-V	2.644	1670
1179	3:59:08.88	+53:35:40.5	15.971	3.903	3.068	2.219	1.082	0.409	0.973	f8 IV	2.433	1470
1180	3:59:09.06	+53:37:46.3	18.268	4.246	3.450	2.514	1.217	0.459	1.149	g2.5 V	2.703	1250
1181	3:59:09.17	+53:44:30.3	18.944			3.012	1.563	0.548	1.334	f0 V:	5.26	1570
1182	3:59:09.17	+53:42:50.4	18.960			3.142	1.494	0.588	1.408	g8 V:	3.974	790
1183	3:59:09.42	+53:43:19.5	17.644	4.072	3.335	2.467	1.185	0.424	1.109	g1 V	2.758	1220
1184	3:59:09.92	+53:35:11.3	18.066			3.326	1.678	0.634	1.512	g5:		
1185	3:59:09.96	+53:36:48.3	19.399			2.642	1.322	0.530	1.059	g0:		
1186	3:59:10.46	+53:34:22.1	16.337	4.264	3.314	2.265	1.125	0.409	0.923	a7 V, mr:	3.598	1280
1187	3:59:11.15	+53:42:21.7	17.769	4.586	3.780	2.758	1.279	0.494	1.193	g5 IV:	3.096	2160
1188	3:59:11.33	+53:39:29.3	16.706	3.638	2.891	2.245	1.234	0.428	1.052	b2-3		
1189	3:59:11.44	+53:45:02.7	16.841	4.533	3.460	2.433	1.201	0.437	1.045	f2 III:	3.611	2020
1190	3:59:11.47	+53:37:49.5	18.649	4.630	3.555	2.660	1.386	0.519	1.199	f3:	3.842	1690
1191	3:59:11.54	+53:36:00.7	18.596	4.831	3.532	2.706	1.364	0.526	1.251	f5-g0	3.514	3950
1192	3:59:12.19	+53:35:57.5	15.254	6.515	5.733	4.109	1.847	0.741	1.557	k2.5 III	3.773	1540
1193	3:59:12.23	+53:41:33.9	19.316			2.902	1.506	0.557	1.383	f8 V:	4.223	1650
1194	3:59:12.55	+53:37:40.6	19.171			2.830	1.415	0.884	1.263	g1:		
1195	3:59:12.77	+53:36:01.8	16.902	3.545	2.854	2.064	1.001	0.377	0.942	f7 V	2.228	1480
1196	3:59:12.84	+53:36:39.9	19.469			2.656	1.331	0.493	1.162	g0:		
1197	3:59:13.42	+53:44:11.0	17.224	3.922	3.170	2.308	1.098	0.409	0.998	g0 IV-V	2.414	1790
1198	3:59:14.03	+53:40:21.0	17.885	4.958	3.729	2.837	1.436	0.496	1.281		3.788	2510
1199	3:59:14.71	+53:45:16.8	18.584	4.439	3.505	2.623	1.373	0.516	1.137	f5 V	3.693	1900

Table A.4.: Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _v mag	d pc
1200	3:59:14.82	+53:35:27.1	19.275			2.416	1.303	0.428	1.119	b		
1201	3:59:14.89	+53:43:56.6	19.298			2.851	1.422	0.545	1.266	g1 V:	3.647	1740
1202	3:59:15.04	+53:40:56.9	18.503	4.995	4.071	2.911	1.466	0.521	1.288		3.727	2340
1203	3:59:15.14	+53:36:41.8	16.883	3.948	3.102	2.232	1.094	0.431	1.011	f7 IV	2.628	2110
1204	3:59:15.61	+53:38:11.7	17.824	4.458	3.616	2.589	1.291	0.460	1.213	g0 IV	3.236	2280
1205	3:59:15.68	+53:35:26.9	16.988	3.946	3.310	2.367	1.073	0.461	1.021	g9 V	1.884	760
1206	3:59:15.94	+53:39:36.2	19.090			2.807	1.427	0.510	1.244	f9:		
1207	3:59:16.08	+53:37:07.8	18.567	4.461	3.408	2.575	1.288	0.501	1.156	f-g	3.136	4640
1208	3:59:16.15	+53:37:23.4	19.238			2.722	1.395	0.480	1.203	f7:		
1209	3:59:16.37	+53:41:13.7	17.295	3.995	3.170	2.379	1.152	0.449	1.076	f9 IV-V	2.765	1640
1210	3:59:16.62	+53:37:47.0	18.228			2.609	1.180	0.474	1.103	k0 IV:		
1211	3:59:16.69	+53:38:09.7	12.923	3.045	2.433	1.709	0.784	0.303	0.777	f8 V	1.25	342
1212	3:59:16.73	+53:36:13.1	14.569	3.444	2.635	1.798	0.865	0.328	0.781	f3 IV	1.938	1130
1213	3:59:17.09	+53:41:49.6	16.346	4.263	3.592	2.502	1.088	0.437	1.047	k0 IV	1.641	2090
1214	3:59:17.38	+53:37:42.6	17.100	4.279	3.178	2.081	1.059	0.403	0.852	a8 IV	2.999	2930
1215	3:59:17.52	+53:42:18.7	17.936	3.946	3.116	2.351	1.170	0.409	1.081	f-g, md:	2.732	1570
1216	3:59:17.84	+53:34:37.2	17.329	4.434	3.706	2.580	1.169	0.500	1.064	k0 V	2.186	710
1217	3:59:18.56	+53:38:10.2	15.067	4.347	3.720	2.523	1.040	0.479	1.030	k2 V	1.22	281
1218	3:59:18.85	+53:34:48.9	18.766		3.827	2.584	1.350	0.472	1.055	a5 V:	4.519	3380
1219	3:59:19.10	+53:42:47.8	18.459	4.556	3.634	2.723	1.293	0.515	1.189	g4 IV:	3.098	3010
1220	3:59:19.18	+53:44:00.2	19.326			2.923	1.335	0.095	1.243	k2 IV:		
1221	3:59:19.21	+53:39:09.2	17.317	4.629	4.004	2.710	1.153	0.559	1.153	k4.5 V	1.955	580
1222	3:59:19.25	+53:39:28.2	18.799			2.801	1.199	0.562	1.190	k2 V	2.323	1040
1223	3:59:19.32	+53:38:56.6	18.539	4.219	3.651	2.513	1.150	0.445	1.125	g9 V	2.306	1280
1224	3:59:19.46	+53:42:32.4	18.413			3.439	1.373	0.779	1.427	k7 V	1.91	500
1225	3:59:19.68	+53:38:07.7	17.823	4.984	4.157	3.029	1.404	0.552	1.285	g8 IV	3.36	1870
1226	3:59:19.90	+53:45:03.6	16.367	4.668	3.448	2.286	1.192	0.426	0.955	a2 IV	4.219	1860
1227	3:59:20.04	+53:37:59.9	18.209			3.579	1.535	0.822	1.464	k5.5 V	2.685	384
1228	3:59:20.29	+53:37:32.0	18.503	4.468	3.550	2.608	1.304	0.513	1.128	f7 IV	3.45	3050
1229	3:59:20.47	+53:35:49.8	17.344	4.339	3.481	2.571	1.287	0.484	1.140	f8 IV-V	3.29	1380
1230	3:59:20.54	+53:38:50.6	16.596	4.709	4.123	2.794	1.147	0.568	1.132	k3.2 V	1.701	412
1231	3:59:20.80	+53:34:26.5	17.810			3.849	1.821	0.709	1.539	k1 IV:	4.398	1150
1232	3:59:20.83	+53:44:34.6	15.693	3.651	2.965	2.124	0.980	0.388	0.906	g2 IV	1.62	600
1233	3:59:20.98	+53:43:29.4	18.219	5.052	3.805	2.661	1.292	0.490	1.192		2.883	4760
1234	3:59:21.12	+53:34:05.5	19.016			2.703	1.399	0.553	1.101	f5:		
1235	3:59:21.16	+53:40:50.8	17.206	5.544	4.966	3.506	1.378	0.805	1.436	k7 V:	2.06	269
1236	3:59:21.19	+53:34:39.5	18.120			4.003	1.857	0.727	1.584	k1 III	4.175	4460
1237	3:59:21.59	+53:35:01.9	18.906			2.953	1.391	0.521	1.242	g7 III-IV	2.988	6220
1238	3:59:22.09	+53:43:12.5	15.963	4.095	3.329	2.380	1.092	0.413	1.025	g5 III-IV	1.89	2660
1239	3:59:22.45	+53:33:50.3	18.557	4.834	3.623	2.435	1.245	0.505	0.994	a5:		
1240	3:59:22.52	+53:34:49.3	18.750	4.507	3.786	2.736	1.279	0.535	1.235	g9 V	2.859	1090
1241	3:59:22.56	+53:38:01.8	18.606	4.466	4.050	2.741	1.213	0.563	1.173	k4.5 V	2.266	970
1242	3:59:23.17	+53:37:25.1	18.500	4.406	3.560	2.508	1.279	0.479	1.101	f:	3.277	4410
1243	3:59:23.60	+53:37:13.7	18.157			3.568	1.465	0.786	1.498	k6 V	2.613	388
1244	3:59:23.60	+53:39:26.1	18.680	4.551	3.936	2.736	1.227	0.535	1.204	k2 V:	2.198	1040
1245	3:59:23.64	+53:35:00.5	16.569	5.576	4.795	3.439	1.631	0.636	1.384	k0 IV:	3.756	880
1246	3:59:23.68	+53:37:48.5	17.790	4.620	3.457	2.350	1.240	0.456	0.984	a	3.642	2690
1247	3:59:23.71	+53:34:44.3	18.346	4.101	3.392	2.463	1.170	0.506	0.990	g	2.269	1410
1248	3:59:24.97	+53:42:42.7	17.523	4.149	3.293	2.419	1.173	0.443	1.083	f8 IV	2.964	2350
1249	3:59:24.97	+53:37:28.3	19.430			2.838	1.319	0.513	1.240	g8 IV	2.953	4740
1250	3:59:25.22	+53:40:05.7	19.151			2.721	1.376	0.520	1.181	f8:		
1251	3:59:25.22	+53:44:41.1	19.206			2.823	1.351	0.558	1.171	g8:		

Table A.4.: Continued

No.	RA (J2000) h m s	DEC (J2000) ° ′ ″	V mag	U-V mag	P-V mag	X-V mag	Y-V mag	Z-V mag	V-S mag	Photom. sp. type	A _V mag	d pc
1252	3:59:25.62	+53:44:08.4	13.225	3.723	3.119	2.102	0.878	0.408	0.871	k0.5 V	0.964	179
1253	3:59:25.84	+53:41:51.9	17.753			4.090	1.974	0.738	1.715	g8 III	5.287	2150
1254	3:59:25.98	+53:38:56.8	18.287			2.764	1.437	0.521	1.193	f5:		
1255	3:59:26.12	+53:38:53.2	17.502	4.953	3.698	2.464	1.253	0.467	1.048	a5, mr:		
1256	3:59:26.34	+53:35:50.6	19.428			2.744	1.407	0.549	1.180	f7:		
1257	3:59:26.38	+53:38:42.8	16.922	4.109	3.301	2.496	1.331	0.484	1.110	b or f,md		:
1258	3:59:26.70	+53:33:42.2	19.427			2.749	1.207	0.578	1.183	k2 V	2.201	1460
1259	3:59:27.38	+53:43:44.8	18.615	4.301	3.599	2.562	1.204	0.498	1.068	g7 V	2.478	1450
1260	3:59:27.56	+53:34:49.4	17.596	5.231	4.590	3.221	1.277	0.747	1.220	k5 V	1.942	491
1261	3:59:28.10	+53:35:44.4	18.768	4.660	3.858	2.578	1.344	0.559	1.050		3.805	4350
1262	3:59:28.18	+53:44:37.0	18.857			2.979	1.295	0.657	1.137	k3 V	2.5	890
1263	3:59:28.21	+53:37:53.0	19.167			2.799	1.377	0.562	1.144	g2:		
1264	3:59:28.61	+53:38:35.1	18.361	5.000	3.878	2.816	1.446	0.544	1.262	f3 III	4.481	2640
1265	3:59:29.08	+53:39:47.7	19.389			2.919	1.427	0.543	1.276	g6:		
1266	3:59:29.11	+53:42:06.2	18.009	4.444	3.713	2.610	1.129	0.525	1.112	k2 V:	1.85	890
1267	3:59:29.18	+53:45:16.5	17.913	5.223	3.785	2.651	1.337	0.471	1.115			
1268	3:59:29.29	+53:35:09.8	19.438			2.805	1.462	0.470	1.191			
1269	3:59:29.47	+53:33:26.1	19.107			2.768	1.267	0.570	1.245	k0 V:	2.809	1200
1270	3:59:29.76	+53:34:31.8	19.031			2.738	1.271	0.555	1.172	g:		
1271	3:59:29.90	+53:43:18.1	18.118			3.762	1.822	0.718	1.622	k0 IV	4.7	1160
1272	3:59:29.94	+53:43:52.0	19.190			2.706	1.222	0.589	1.177	k2 V:	2.095	1380
1273	3:59:30.01	+53:33:20.6	16.925	4.616	3.453	2.256	1.188	0.459	0.962	a3 V	3.885	2130
1274	3:59:30.05	+53:37:04.7	16.135	4.214	3.080	2.048	1.088	0.377	0.879	b9-a0	3.788	2040
1275	3:59:31.16	+53:39:20.0	18.762		3.824	2.837	1.430	0.542	1.220	g0 IV-V:	3.645	2060
1276	3:59:31.27	+53:40:47.9	13.610	3.717	2.594	1.579	0.776	0.310	0.677	a3p	1.983	5100
1277	3:59:31.34	+53:44:26.1	16.708	3.560	2.785	2.030	0.997	0.362	0.877	f5 IV-V	2.288	1920
1278	3:59:31.42	+53:40:59.8	18.001	4.605	3.375	2.222	1.122	0.427	0.973	a5 IV,mr:	2.72	4530
1279	3:59:31.78	+53:36:04.8	16.248	5.041	4.186	3.076	1.464	0.613	1.283	g8:		
1280	3:59:31.96	+53:39:12.0	18.286			3.965	1.899	0.737	1.682	k0 III-IV	4.853	2030
1281	3:59:31.99	+53:40:36.3	19.055	4.284	3.597	2.590	1.128	0.446	1.140	k0 V	2.36	1440
1282	3:59:32.10	+53:37:09.6	18.552			2.908	1.237	0.612	1.176	k3.7 V	2.031	900
1283	3:59:32.39	+53:41:46.2	18.870			2.930	1.497	0.617	1.261	f9:		
1284	3:59:32.53	+53:38:56.7	18.062			3.122	1.271	0.699	1.308	k5 V	1.895	620
1285	3:59:32.53	+53:39:44.8	18.327	4.266	3.491	2.566	1.140	0.488	1.090	k0 V:	2.22	1000
1286	3:59:33.00	+53:38:53.9	17.214	4.235	3.283	2.361	1.158	0.437	1.057	f8 III	2.762	3240
1287	3:59:33.00	+53:35:18.6	17.244	5.442	4.772	3.320	1.288	0.775	1.298	k7 V:	1.506	353
1288	3:59:33.14	+53:41:09.9	17.717			3.801	1.811	0.722	1.584	k0 IV:		
1289	3:59:33.86	+53:39:54.9	19.375			2.872	1.469	0.538	1.253			
1290	3:59:33.97	+53:42:19.8	18.078	4.994	3.924	2.999	1.477	0.583	1.265	f-g	3.494	630
1291	3:59:34.01	+53:41:43.7	18.371	4.102	3.359	2.503	1.161	0.494	1.128	g8 V:	2.424	1230
1292	3:59:34.19	+53:38:19.3	19.227			2.883	1.449	0.572	1.237	g1 V:	3.646	1680
1293	3:59:34.37	+53:37:28.9	15.789	4.444	3.344	2.357	1.189	0.455	1.022	f2 III	2.427	1360
1294	3:59:34.51	+53:34:49.2	17.342	4.984	3.773	2.508	1.295	0.459	1.078	a5 IV-V	4.389	1910
1295	3:59:34.73	+53:33:09.9	15.877	3.699	3.023	2.103	0.943	0.382	0.915	g5 IV:	1.52	1870
1296	3:59:34.94	+53:39:00.0	17.787			3.965	1.853	0.723	1.601	k1 III	4.13	3900
1297	3:59:35.12	+53:40:00.2	16.946	4.017	3.169	2.268	1.082	0.442	1.009	f-g	2.171	3670
1298	3:59:35.70	+53:35:29.6	17.199	4.180	3.286	2.340	1.205	0.455	1.069	f2 V	3.439	1420
1299	3:59:36.31	+53:42:20.1	17.855			4.230	1.901	0.786	1.647	k2.5 III	4.135	4310
1300	3:59:36.42	+53:40:34.3	18.670	4.703	3.851	2.765	1.159	0.593	1.148	k3 V:	1.833	1120
1301	3:59:36.71	+53:34:16.5	18.297		4.143	2.742	1.450	0.549	1.173	a3p:		
1302	3:59:36.89	+53:33:33.4	13.907	6.473	5.698	3.989	1.712	0.713	1.503	k3 III:	3.322	1040