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# ON THE λ4430 INTERSTELLAR BAND: A VISUAL CLASSIFICATION

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RESUMEN

Se ha desarrollado un sistema de clasificación visual de la intensidad de la banda de absorción interstelar λ4430. Este se basa en la observación al microscopio de espectros tomados a dispersión de clasificación espectral. La intensidad de la banda fue dividida en 8 clases principales definidas por un grupo de estrellas seleccionadas como prototipos.

El sistema fue aplicado a 1,111 estrellas O y B del hemisferio austral, contenidas en el catálogo de Garrison, Hiltner y Schild (1977). El error típico en la clasificación se estimó en ±1 clase. El ancho equivalente de la banda se midió para 100 estrellas y se encontró una excelente correlación con las estimaciones visuales. Se da una calibración entre estos dos parámetros.

ABSTRACT

A system of visual classification of the strength of the interstellar band λ4430 has been developed, based on spectra taken at spectral classification dispersion. The intensity of the band was divided into 8 main classes, defined by a group of selected standard stars.

The system was applied to 1,111 southern OB stars contained in the catalog of spectral types by Garrison, Hiltner, and Schild (1977). The mean error in the classification was estimated to be ±1 class. Equivalent widths were measured for 100 stars; an excellent correlation with the visual estimations was obtained. A calibration between these two parameters is given.

*Key words:* **INTERSTELLAR MATTER — STARS, EARLY TYPE.**

## I. INTRODUCTION

For over 40 years the presence of interstellar bands in the spectra of early type stars has stimulated many astronomers to search for the origin and nature of the absorption. In 1934 four interstellar bands in the visual spectral region were first identified, (Merrill 1934). With time more features were discovered along the spectrum and up to 1975, 39 features between λ4430 and λ6850 had been identified as "certainly or very probably of interstellar origin" (Herbig 1975).

Since their discovery, several theories for the origin of the bands and the nature and properties of the tracer have appeared. The two classical theories for their origin are; by transitions in free molecules and by some process on the solid interstellar grains. These ideas have been considered for a long time and were first presented by Beals and Blanchet (1937) and Merrill and Wilson (1938) respectively. More recently an origin by small (300 Å) grains alone was suggested by Martin and Angel (1974) and Herbig

(1975). Also described have been some types of molecular transitions which could reproduce the observed profiles of the features (Smith, Snow, and York 1977). Unfortunately even the most modern studies have not had definitive success in confirming these.

Most of the studies have been based on the results of statistical analyses using the intensity of such bands and their correlations with other related physical parameters such as interstellar reddening, column density, ultraviolet extinction, etc. As a measure of the intensity, the equivalent widths have been mostly used. It is desirable to have very accurate equivalent width measurements, but since one has to have a calibration of the plates in order to avoid problems such as differences in exposure, the number of spectra with which one can work is rather restricted. However, there exist many spectra at classification dispersion without calibration that can be useful. We suggest that for these spectra, a visual classification —which is in fact very efficient and, as will be shown in §II, as accurate as the measurements of equivalent widths when a calibration is not available— can be carried out profitably.

In this work such visual inspection has been carried out for the strong band $\lambda$4430 which is the widest, shallowest and bluest of the known features. Because of its very shallowness and wideness the band is overlapped, and can be confused, with some stellar lines, OII $\lambda$4415-17 being the most typical example. This line can affect considerably the determinations of the equivalent widths, however the eye is a good tool that is able, in most of the cases, to differentiate between the band and the line profile. Furthermore it will be shown in a forthcoming paper (Arellano Ferro 1980) that the presence of OII $\lambda$4415-17 has not affected the classification or the results obtained by using it. The method used for the classification is described in §II and the results are presented in Table 2.

## II. THE CLASSIFICATION

1,111 southern OB stars from the catalog of spectral types by Garrison *et al.* (1977) were classified. For this purpose Garrison's collection of spectra was used. These spectra were taken during the years from 1966 to 1973 at the observatories Cerro Tololo and Las Campanas in Chile.

The classification is based on a set of standards defined by looking through the complete file of spectra. It is not very simple at the beginning even to detect the band, but after practice one is able to distinguish differences in intensity and width. We have been able to differentiate 8 main classes of intensity and we identified them with numbers from 0 to 7, where the class 0 has to be interpreted as no band detectable at all and the class 1 as "well, I think it is there", i. e., it is at the limit of the visual detection. However, a few cases show the band a bit stronger than one of the main classes but not as much as the next main one. Those stars were classified with half classes (e. g., 0.5, 1.5, etc.).

The stars used as standards are listed in Table 1. The most frequently used are marked with an asterisk and shown in Plate 7*a*.

TABLE 1

STANDARD STARS

| HBG | CPD | HD | CLASS |
|---|---|---|---|
| 130 | −48 1465 | ... | 0* |
| 1610 | −34 7719 | 167 647 | 0 |
| 1192 | −46 8158 | 150 500 | 0 |
| 528 | −60 2571 | ... | 1* |
| 340 | −50 2848 | 85 983 | 1 |
| 45 | −27 2151 | 60 284 | 2* |
| 157 | −43 2396 | 69 648 | 3* |
| 313 | −56 2319 | 83 060 | 3 |
| 299 | −48 2401 | ... | 4* |
| 1298 | −46 8391 | 154 339 | 4 |
| 50 | −21 2383 | ... | 5* |
| 898 | −59 5634 | ... | 5 |
| 72 | −32 1734 | ... | 6* |
| 1071 | −51 8967 | 144 555 | 6 |
| 958 | −58 5910 | 136 471 | 7* |
| 49 | −21 2364 | ... | 7 |

The $\lambda$4430 band is framed, in most cases, by the helium lines $\lambda$4387 and $\lambda$4471. Between these two lines and the band there is a good space of continuum, which can be used to see the contrast with the density at the center of the band.

The classifications are presented in Table 2. The columns are self-explanatory. For details see the notes to Table 2.

Most people are sceptical about visual estimations when they are compared with more quantitative classifications. A visual classification runs into as many troubles as any other classification, for instance, the determination of equivalent widths, which surely is the most frequently used method of quantification of the strength of spectral features, or central depths with a microdensitometer. In both cases the localization of the continuum level is a big problem.

In the classification by eye, one of the main problems to deal with is the difference in densities of the spectrograms. For spectrograms which are overexposed the band will appear shallower than if they were well exposed, and if they are underexposed, the band may appear either deeper, if it is not very underexposed, or may not even show up if it is too underexposed. A good example of how the exposition does affect the intensity of the band is shown in Plate 7*b* for the star CPD $-56°6206$ (HBG 883). However, during the classification a good idea of how a well-exposed spectrogram appears was formed; then, every spectrum unlike that average one was marked, (see remarks column in Table 2).

Two other main problems arise during the classification: one is the guiding; when it is not very good, the horizontal bands of different densities crossing the spectrum produce confusion. In general, in these cases, one tends to overestimate the band. The other problem is the line of ionized oxygen, λ4415-17. This latter is on the blue wing of the band and because of the superposition, it gives problems for a good estimation of the contrast between the band and the continuum. These characteristics are also marked in Table 2.

The existence of other, weaker stellar lines in the region of the band has always introduced a large uncertainty in the estimations of the strength of the band. Furthermore, it has been demonstrated that those lines can produce a band-like appearance in the spectrum, as is the case of the stars Rho Leonis (Blades and Somerville 1977) and BD 69474, HD 269660, HD 268718 and HD 269546 (Blades and Madore 1978). However, in most of the stars used in this work, the band, when it exists, is very obvious. When several lines were detected the band was not classified, but was marked in Table 2 with a question mark. This problem is an important one to bear in mind when the calibration of the band strength and the equivalent width is carried out. This problem will be discussed in section III.

For 203 stars with two or more spectrograms available, the spectra were classified independently. In some cases the classification was exactly the same but in others it differed. Because of the randomness of this sample of stars, the multiple spectrograms give us an idea of how consistent the classification is. From the statistics of this sample we found that; for a star picked at random from the sample, there is a 37% probability that its actual class is the one with which it was classified, 78% is in the range $\pm 1$ class and 95% is in the range $\pm 2$ classes. From this, we therefore estimate that the mean error in the classification is a bit less than 1 class.

For these 203 stars, the spectra were classified again independently of the first classification. It was found that in most of the cases the classification was equal to the first one and that the differences were due mainly to differences in density, exposition, or to poor guiding. The poor spectra were rejected. When differences in class still persisted, then the remaining spectra were averaged. These cases are indicated in the remarks column of Table 2 (see notes to Table 2).

Naturally, one is always tempted to compare the classification by eye with some other method of measurement. For some stars the spectra were traced with a microdensitometer and then the tracings were compared with the tracings of the standards. A classification following this method can also be carried out, but the accuracy is not higher than the eye method. Nevertheless one can use both methods complementarily. In our case, for those where the class was in doubt, the tracing method was used to reinforce the visual one.

Of course, several other methods of classification might have been used but for general purposes the visual classification is a good enough method that works well.

## III. CALIBRATION WITH EQUIVALENT WIDTHS

We have calibrated the classification in terms of equivalent widths. In order to do that, 100 spectra with similar densities, but without the OII λ4415-17 line and without problems of guiding or exposure,

TABLE 2

λ4430 BAND CLASSIFICATION

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS | HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -22 1594 | 51630 | 0.03 | 0.06 | 0.0 | 5 | 57 | -23 2513 | | 0.39 | -0.43 | 0.0 | |
| 2 | -21 1662 | 52437 | | | 0.5 | AV (2) | 58 | -31 1746 | 61709 | 0.44 | 0.35 | 3.5 | |
| 3 | -23 1827 | 54309 | | | 0.0 | 5 | 59 | -32 1661 | | | | 4.0 | AV (4) |
| 4 | -23 1858 | 54669 | 0.03 | 0.06 | 0.0 | 5 | 60 | -32 1668 | 61827 | 0.69 | 0.54 | 4.0 | |
| 5 | -30 1551 | 55173 | 0.05 | 0.08 | 0.0 | | 61 | -31 1757 | 61851 | 0.37 | 0.25 | 2.0 | AV (3) |
| 6 | -27 1791 | | 0.05 | -0.01 | 0.0 | | 62 | -31 1781 | | 0.42 | 0.34 | 4.0 | |
| 7 | -30 1579 | 55958 | 0.06 | 0.13 | 0.0 | | 63 | -32 1682 | 62150 | 0.60 | 0.51 | 3.0 | |
| 8 | -23 1978 | 56094 | 0.07 | -0.02 | 0.0 | 5 | 66 | -32 1694 | | 0.53 | 0.23 | 3.0 | |
| 9 | -24 2125 | | 0.22 | 0.16 | ? | 3 | 69 | -21 2679 | 62654 | | | 0.0 | 34 |
| 10 | -20 2167 | | 0.29 | 0.21 | 5.0 | | 70 | -40 1682 | 62753 | | | 0.5 | AV (2) |
| 11 | -20 2170 | | 0.40 | | 3.0 | | 72 | -32 1734 | | 1.21 | 0.98 | 6.0 | |
| 12 | -26 1971 | | 0.18 | 0.14 | 0.0 | | 73 | -26 2486 | 62780 | | | 1.0 | |
| 13 | -24 2248 | 57192 | 0.05 | 0.16 | 0.0 | 5 | 74 | -31 1856 | 62844 | 0.85 | 0.62 | 5.0 | 3 |
| 14 | -25 2190 | 57193 | 0.08 | 0.01 | 0.0 | 5 | 76 | -20 2923 | 62866 | 0.37 | 0.24 | 2.0 | 1 |
| 15 | -24 2252 | | 0.30 | 0.27 | 2.0 | | 77 | -37 1555 | 62991 | 0.08 | 0.09 | 0.5 | AV (2) |
| 16 | -21 2019 | 57236 | 0.51 | 0.39 | 1.5 | AV (3) | 78 | -26 2525 | 63005 | | | 0.0 | |
| 17 | -21 2034 | 57370 | 0.35 | 0.21 | 4.0 | 24 | 79 | -36 1608 | 63150 | | | 2.0 | |
| 18 | -23 2084 | 57393 | | | 1.0 | 5 | 80 | -26 2557 | | 0.28 | 0.15 | 3.0 | |
| 19 | -20 2245 | | 0.51 | 0.35 | 5.0 | 13 | 82 | -26 2560 | | 0.34 | 0.20 | 2.0 | |
| 20 | -20 2264 | 57613 | 0.37 | 0.21 | 4.0 | | 83 | -27 2420 | 63290 | 0.68 | 0.49 | 5.0 | 13 |
| 21 | -19 2072 | | 0.29 | 0.18 | 5.0 | | 84 | -41 1685 | 63425 | 0.09 | 0.05 | 2.0 | |
| 22 | -19 2082 | | | | 0.0 | | 85 | -26 2575 | 63359 | | | 1.5 | AV (2) |
| 23 | -20 2303 | | 0.36 | 0.27 | 0.5 | AV (2) | 86 | -30 2021 | 63423 | | | 1.0 | 1 |
| 24 | -20 2305 | | | | 1.5 | AV (2) | 87 | -24 2915 | | 0.20 | 0.13 | 2.0 | 13 |
| 25 | -20 2314 | | 0.33 | 0.18 | 3.0 | 1 | 88 | -33 1798 | 63804 | | | 5.0 | |
| 26 | -25 2282 | 58011 | | | 0.0 | 5 | 89 | -40 1793 | 63868 | 0.05 | 0.11 | 0.5 | AV (2) |
| 27 | -25 2290 | | 0.09 | 0.09 | ? | 24 | 90 | -48 1302 | 64014 | | | 2.0 | |
| 28 | -36 1261 | 58260 | 0.11 | 0.09 | 1.0 | AV (2) | 91 | -25 2962 | | 0.14 | 0.44 | 1.0 | |
| 29 | -23 2161 | 58256 | 0.64 | 0.48 | 5.0 | | 92 | -25 2974 | | 0.36 | 0.25 | 2.0 | |
| 30 | -20 2343 | 58321 | 0.44 | 0.36 | 2.0 | | 94 | -25 2994 | | 0.25 | 0.29 | 2.0 | AV (2) |
| 31 | -28 1984 | | 0.04 | 0.08 | 0.0 | 5 | 96 | -24 2991 | 64219 | 0.15 | 0.04 | ? | 3 |
| 32 | -20 2357 | 58416 | 0.30 | 0.19 | 2.0 | | 98 | -21 2878 | 64298 | | | 1.0 | |
| 33N | -20 2365N | 58509N | | | 3.0 | | 99 | -26 2698 | 64315 | | | 4.0 | |
| 33S | -20 2365S | 58509S | | | 3.0 | | 100 | -26 2716 | | | | ? | 3 |
| 34 | -20 2366 | | 0.35 | 0.24 | ? | 3 | 101 | -25 3039 | 64568 | | | 3.0 | |
| 35 | -20 2370 | 58510 | 0.33 | 0.22 | 0.0 | 1 | 102 | -24 3039 | 64639 | | | 1.0 | |
| 36 | -20 2375 | | 0.29 | 0.12 | 1.0 | 3 | 103 | -35 1704 | 64802 | 0.04 | 0.09 | 0.0 | |
| 37 | -26 2106 | 58673 | 0.04 | -0.06 | 0.0 | | 105 | -23 3133 | 64993 | 0.27 | 0.16 | 2.0 | 1 |
| 38 | -20 2437 | | 0.30 | 0.28 | 2.0 | | 106 | -28 2561 | | | | ? | |
| 39 | -31 1588 | 59550 | 0.04 | 0.11 | 0.0 | | | -28 2563 | | | | 3.0 | |
| 40 | -21 2238 | 59498 | | | 0.0 | 5 | 107 | -28 2569 | | 0.45 | 0.33 | 4.0 | 4 |
| 41 | -33 1536 | 59864 | 0.14 | 0.11 | 2.0 | | 108 | -29 2183 | | | | 5.0 | |
| 43 | -28 2150 | 60196 | 0.26 | 0.13 | 1.5 | AV (2) | 110 | -31 2025 | | 0.51 | 0.38 | 5.0 | 1 |
| 44 | -27 2143 | | | | 2.0 | | 114 | -27 2710 | | 0.29 | 0.16 | 3.0 | 3 |
| 45 | -27 2151 | 60284 | 0.45 | 0.31 | 2.0 | | 116 | -30 2209 | | 0.39 | 0.30 | 2.0 | |
| 46 | -28 2161 | 60369 | 0.33 | 0.25 | 1.6 | AV (3) | 117 | -30 2208 | 66539 | 0.19 | 0.14 | 1.0 | |
| 47 | -27 2163 | 60479 | 0.63 | 0.47 | 4.0 | | 119 | -32 1935 | 66582 | 0.10 | 0.20 | 0.0 | 5 |
| 48 | -19 2352 | 60553 | 0.06 | 0.07 | 1.0 | | 120 | -47 1796 | 66765 | 0.07 | 0.10 | 0.0 | |
| 49 | -21 2364 | | 0.71 | 0.45 | 7.0 | | 122 | -26 2966 | 66695 | 0.28 | 0.20 | ? | 3 |
| 50 | -21 2383 | | 0.52 | 0.39 | 5.0 | | 123 | -27 2757 | 66788 | 0.22 | 0.19 | 0.0 | 2 |
| 51 | -22 2386 | | | | 2.0 | | 124 | -31 2110 | | | | 1.0 | 4 |
| 52 | -25 2577 | 61071 | 0.15 | 0.12 | 0.0 | 5 | 127 | -46 2105 | 67341 | 0.02 | 0.06 | 0.0 | |
| 53 | -19 2396 | 61068 | 0.07 | 0.05 | 1.0 | 2 | 130 | -48 1465 | | 0.01 | 0.02 | 0.0 | |
| 54 | -31 1701 | | | | 0.0 | 4 | 132 | -28 2830 | 67887 | 0.06 | | ? | |
| 56 | -32 1627 | 61355 | | | 0.5 | AV (2) | 133 | -46 2185 | 68092 | 0.04 | 0.06 | 0.0 | |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 134 | -37 1927 | | 0.51 | 0.36 | 2.5 | AV (2) |
| 135 | -27 2907 | 68026 | 0.22 | 0.18 | 1.0 | 1 |
| 138 | -36 2035 | 68450 | 0.28 | 0.23 | 1.5 | |
| 139 | -31 2176 | 68552 | 0.33 | 0.17 | 4.0 | |
| 140 | -37 1982 | 68572 | 0.28 | 0.15 | 1.5 | 1, AV (2) |
| 141 | -32 2037 | | 0.55 | 0.39 | 5.0 | |
| 142 | -38 2036 | | 0.77 | 0.60 | 4.0 | |
| 143 | -36 2069 | 68761 | 0.20 | 0.11 | 1.0 | |
| 144 | -34 2135 | | 0.70 | 0.50 | 3.5 | |
| 145 | -46 2281 | 69144 | 0.05 | 0.18 | 0.0 | |
| 146 | -31 2207 | 69080 | 0.07 | 0.15 | 1.0 | |
| 147 | -36 2117 | 69106 | | | 0.0 | |
| 148 | -46 2283 | 69168 | 0.04 | 0.08 | 0.0 | 1 |
| 149 | -45 2285 | 69302 | 0.04 | 0.08 | 0.0 | |
| 150 | -46 2306 | 69404 | | | 0.0 | 4 |
| 151 | -35 2105 | | 0.74 | 0.54 | 3.5 | |
| 153 | -36 2158 | 69425 | | | 1.5 | AV (2) |
| 155 | -48 1577 | | | | 0.0 | |
| 156 | -35 2117 | | | | 0.0 | 1 |
| 157 | -43 2396 | 69648 | 0.60 | 0.44 | 3.0 | |
| 158 | -35 2136 | | 0.44 | -0.60 | 0.0 | |
| 159 | -42 2316 | 69882 | 0.52 | 0.43 | 2.0 | 1 |
| 160 | -43 2439 | 70122 | 0.76 | 0.61 | 4.0 | 1 |
| 163 | -35 2212 | | 0.58 | 0.41 | ? | 3 |
| 165 | -43 2485 | 70583 | 0.99 | 0.83 | 4.5 | AV (2) |
| 168 | -42 2455 | 71302 | 0.04 | 0.05 | 0.0 | |
| 169 | -43 2550 | 71304 | | | 2.5 | AV (2) |
| 170 | -44 2597 | | | | 3.0 | |
| 172 | -41 2521 | 71528 | 0.29 | 0.22 | 1.0 | 1 |
| 173 | -43 2586 | 71609 | 0.28 | 0.19 | 2.0 | |
| 174 | -36 2512 | 71649 | 0.43 | 0.24 | 3.0 | |
| 176 | -27 3222 | 71771 | 0.06 | -0.04 | 0.0 | 5 |
| 177 | -49 1653 | | | | 0.0 | |
| 178 | -28 3193 | 71928 | 0.59 | 1.00 | 0.0 | 5 |
| 179 | -42 2551 | 72014 | | | 0.0 | |
| 181 | -43 2636 | 72067 | 0.08 | 0.11 | 1.0 | |
| 183 | -44 2685 | 72350 | 0.14 | | 3.0 | |
| 184 | -38 2399 | 72436 | 0.04 | 0.09 | 0.0 | |
| 185 | -47 2348 | 72485 | 0.07 | 0.13 | 1.0 | |
| 186 | -43 2677 | | 0.65 | 0.52 | 3.0 | |
| 187 | -45 2611 | 72554 | 0.55 | 0.41 | 4.0 | |
| 188 | -43 2684 | 72648 | 0.34 | 0.28 | 1.0 | |
| 189 | -37 2552 | 72787 | 0.05 | 0.14 | 0.0 | |
| 192 | -46 2707 | 73326 | 0.24 | 0.11 | 1.0 | |
| 193 | -43 2781 | 73420 | 0.44 | 0.34 | 2.0 | |
| 194 | -44 2824 | 73568 | 0.57 | 0.40 | 4.0 | 1 |
| 195 | -45 2742 | 73658 | 0.30 | 0.21 | 2.5 | 1, AV (2) |
| 196 | -37 2655 | 73653 | 0.30 | 0.21 | 1.5 | AV (2) |
| 197 | -39 2696 | 73698 | 0.41 | 0.31 | 1.0 | 1 |
| 198 | -39 2725 | 73882 | 0.72 | 0.62 | 2.0 | |
| 199 | -45 2778 | 73919 | 0.47 | 0.32 | 2.0 | 4 |
| 200 | -53 1796 | 74071 | 0.01 | -0.02 | 0.0 | |
| 201 | -52 1579 | 74146 | 0.04 | 0.08 | 0.0 | |
| 203 | -44 2911 | 74194 | | | 1.5 | AV (2) |
| 205 | -48 1862 | 74273 | 0.03 | -0.01 | 2.0 | 1 |

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 206 | -47 2565 | 74401 | | | 2.0 | |
| 208 | -47 2578 | 74455 | 0.09 | -0.02 | 1.0 | |
| 209 | -47 2592 | 74531 | 0.08 | 0.02 | 0.0 | |
| 210 | -52 1605 | 74535 | -0.11 | | 0.0 | |
| 212 | -52 1607 | 74560 | 0.02 | 0.05 | 0.0 | |
| 213 | -47 2605 | 74580 | 0.47 | 0.01 | 1.0 | |
| 214 | -45 2907 | 74677 | 0.44 | 0.39 | 2.0 | 1 |
| 215 | -49 1793 | 74753 | 0.10 | 0.07 | 0.0 | |
| 216 | -46 2892 | 74711 | 0.34 | 0.25 | 2.0 | |
| 217 | -40 2824 | 74805 | 0.63 | 0.44 | 2.0 | |
| 218 | -40 2848 | 74979 | 0.24 | 0.19 | 1.0 | 1 |
| 221 | -39 2858 | 75125 | -0.05 | | 0.0 | 5 |
| 222 | -45 3028 | 75149 | 0.42 | 0.34 | 3.0 | |
| 223 | -43 2972 | 75211 | | | 1.0 | |
| 225 | -36 2966 | 75222 | 0.63 | 0.49 | 2.0 | |
| 226 | -38 2697 | 75272 | 0.04 | 0.04 | 0.0 | |
| 227 | -45 3056 | 75309 | 0.25 | 0.19 | 1.0 | 1 |
| 228 | -42 2963 | 75387 | 0.04 | 0.08 | 1.0 | |
| 229 | -47 2750 | 75534 | 0.59 | 0.44 | 2.5 | 1, AV (2) |
| 230 | -46 3054 | | 0.35 | 0.24 | 2.0 | |
| 231 | -47 2765 | 75658 | | | 2.0 | |
| 232 | -41 3027 | 75655 | 0.21 | 0.11 | 2.0 | |
| 233 | -41 3032 | 75724 | 0.20 | 0.11 | 1.0 | |
| 235 | -32 2435 | | | | 3.0 | |
| 236 | -41 3040 | 75759 | 0.21 | 0.18 | 1.0 | |
| 237 | -45 3131 | | 0.66 | 0.50 | 3.0 | 1 |
| 240 | -43 3044 | 75860 | 0.93 | 0.71 | 6.0 | 1 |
| 241 | -41 3067 | 75871 | 0.23 | 0.10 | 1.0 | |
| 242 | -45 3174 | | 0.65 | 0.49 | 4.0 | 1 |
| 243 | -47 2830 | 75991 | 0.40 | 0.32 | 2.0 | |
| 244 | -43 3078 | 76031 | 0.78 | 0.62 | 5.0 | 12 |
| 245 | -48 2002 | | 0.35 | 0.28 | 2.0 | |
| 246 | -45 3218 | | 1.10 | 0.94 | 5.0 | |
| 247 | -42 3092 | 76341 | 0.60 | 0.50 | 1.0 | |
| 248 | -46 3232 | 76535 | 0.71 | 0.50 | 2.0 | |
| 249 | -47 2913 | 76556 | | | 1.3 | AV (2) |
| 250 | -44 3226 | 76566 | 0.02 | 0.08 | 1.0 | |
| 251 | -40 2985 | 76554 | 0.37 | 0.25 | 1.0 | |
| 253 | -42 3145 | 76838 | 0.22 | 0.09 | 0.0 | |
| 255 | -48 2087 | 76852 | 0.57 | 0.38 | 3.5 | |
| 256 | -50 1936 | 76968 | 0.40 | 0.29 | 2.0 | |
| 257 | -58 1306 | 77032 | | | 1.0 | |
| 258 | -47 2963 | | | | 5.0 | AV (2) |
| 261 | -48 2119 | 77237 | 0.88 | 0.66 | 3.0 | |
| 263 | -42 3235 | 77320 | | | 0.0 | |
| 264 | -48 2140 | 77421 | 0.71 | 0.50 | 4.0 | |
| 265 | -48 2142 | 77434 | | | 0.0 | |
| 266 | -41 3232 | 77475 | 0.01 | 0.01 | 0.0 | |
| 267 | -40 3072 | 77581 | | | 3.0 | 1 |
| 268 | -46 3340 | 77718 | 0.96 | 0.74 | 3.0 | 12 |
| 269 | -46 3371 | 78005 | 0.06 | 0.15 | 0.0 | |
| 273 | -44 3436 | 78616 | 0.22 | 0.15 | 1.0 | 1 |
| 274 | -52 1968 | | | | 1.0 | 1 |
| 275 | -42 3406 | 78927 | 0.64 | 0.51 | 3.0 | 12 |
| 276 | -43 3397 | 78958 | 0.91 | 0.76 | 3.0 | 1 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS | HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 278 | -44 3495 | 79186 | 0.33 | 0.21 | 1.5 | | 379 | -60 1765 | 88844 | 0.14 | 0.10 | 0.0 | 1 |
| 279 | -57 1908 | | 0.18 | 0.10 | 1.5 | AV (2) | 386 | -50 3241 | 89137 | 0.27 | 0.19 | 1.0 | 1 |
| 280 | -46 3474 | 79275 | 0.02 | 0.03 | 0.0 | | 387 | -51 3138 | 89174 | 0.36 | 0.26 | 0.0 | 1 |
| 283 | -55 2028 | 79778 | | | 3.0 | | 391 | -59 2049 | | 0.65 | 0.51 | 5.0 | |
| 287 | -44 3605 | 80057 | 0.27 | | 1.0 | | 392 | -51 3211 | 89767 | 0.38 | 0.29 | 2.0 | 1 |
| 288 | -49 2323 | 80077 | | | 6.0 | | 394 | -59 2079 | 90075 | 0.38 | 0.27 | 2.0 | 1 |
| 289 | -62 1209 | 80325 | 0.12 | 0.07 | 2.0 | | 395 | -59 2080 | 90087 | 0.33 | 0.23 | 0.0 | |
| 290 | -52 2185 | 80383 | 0.28 | 0.22 | 2.0 | | 397 | -53 3709 | 90135 | 0.36 | 0.23 | 2.0 | 1 |
| 291 | -51 2101 | 80558 | 0.62 | 0.43 | 4.0 | | 398 | -57 3105 | 90187 | | | 0.0 | |
| 292 | -45 3655 | | 0.01 | -0.06 | ? | | 399 | -48 3261 | 90202 | 0.43 | 0.32 | 2.0 | 1 |
| 299 | -48 2401 | | 1.39 | 1.18 | 4.0 | | 400 | -53 3730 | | 0.21 | 0.11 | 1.5 | |
| 300 | -52 2281 | 81370 | 0.37 | 0.31 | 3.0 | AV (2) | 402 | -58 2163 | 90313 | 0.54 | 0.37 | 4.7 | 1, AV (2) |
| 302 | -52 2303 | | 0.59 | 0.36 | 5.0 | | 408 | -59 2126 | 90600 | | | 0.0 | 3 |
| 304 | -58 1513 | 81654 | 0.24 | 0.17 | 2.0 | | 409 | -56 3322 | 90615 | 0.47 | 0.37 | 3.0 | 1 |
| 305 | -52 2362 | | 0.58 | 0.34 | 4.0 | | 411 | -57 3237 | 90707 | 0.55 | 0.34 | 3.0 | |
| 306 | -53 2433 | 82003 | 0.0 | -0.03 | 0.0 | | 412 | -57 3256 | 90772 | | | ? | |
| 308 | -51 2299 | | 0.89 | 0.65 | 4.0 | | 413 | -57 3265 | | 0.44 | 0.36 | 3.0 | 2 |
| 312 | -46 3733 | 82830 | | | 2.0 | 2 | 419 | -56 3448 | 91188 | | | 0.0 | |
| 313 | -56 2319 | 83060 | | | 3.0 | | 420 | -62 1622 | | 0.28 | 0.25 | 4.0 | 3 |
| 314 | -53 2571 | 83043 | | | 1.0 | 2 | 421 | -57 3387 | 91421 | 0.32 | 0.25 | 2.0 | 1 |
| 315 | -49 2600 | 83281 | 0.55 | | 2.0 | | 422 | -63 1465 | 91452 | 0.48 | 0.35 | 2.0 | |
| 318 | -59 1428 | 83475 | 0.22 | 0.13 | 3.0 | | 423 | -60 1968 | 91597 | | | 1.0 | |
| 319 | -53 2656 | 83597 | | | 1.0 | | 424 | -57 3423 | 91572 | | | 0.0 | |
| 322 | -48 2616 | 84136 | 0.70 | 0.54 | 3.3 | AV (2) | 425 | -57 3431 | 91619 | | | 1.0 | 5 |
| 326 | -53 2806 | 84523 | | | 1.5 | AV (2) | 426 | -59 2214 | 91651 | 0.31 | 0.23 | 0.0 | |
| 327 | -44 4165 | 84816 | 0.06 | 0.15 | 0.0 | | 426B | -59 2214B | 91651B | | | ? | |
| 328 | -53 2865 | 84861 | 0.52 | 0.45 | 2.0 | | 429 | -57 3463 | 91824 | 0.26 | 0.21 | 0.0 | |
| 329 | -52 2793 | 84877 | 0.71 | 0.54 | 3.0 | 13 | 432 | -57 3468 | 91850 | 0.39 | 0.32 | 2.0 | 1 |
| 331 | -51 2616 | | 1.39 | 0.96 | 2.0 | | 434 | -61 1734 | 92027 | 0.29 | 0.24 | 0.0 | 5 |
| 334 | -51 2659 | | 0.40 | 0.29 | 1.5 | 1, AV (2) | 435 | -57 3540 | 92007 | 0.41 | 0.29 | 1.0 | 1 |
| 335 | -47 3653 | 85356 | 0.19 | 0.14 | 0.0 | 1 | 437 | -57 3545 | 92060 | 0.56 | 0.40 | 5.0 | 1 |
| 336 | -60 1510 | 85567 | | | 1.0 | | 438 | -58 2372 | 92061 | 0.34 | 0.24 | 0.0 | |
| 338 | -52 2883 | 85894 | 0.09 | | 0.0 | | 439 | -57 3553 | | 0.34 | 0.22 | 2.0 | 12 |
| 339 | -53 2964 | 85740 | 0.55 | 0.40 | 5.0 | | 440 | -57 3566 | 92144 | 0.63 | 0.45 | 5.0 | 1 |
| 340 | -50 2848 | 85983 | 0.06 | 0.14 | 1.0 | | 445 | -59 2378 | 92451 | 0.22 | 0.13 | 2.0 | |
| 341 | -56 2635 | 86117 | 0.53 | 0.38 | 3.5 | AV (2) | 447 | -56 3622 | 92504 | 0.27 | 0.21 | 0.0 | 5 |
| 342 | -58 1697 | 86162 | 0.20 | 0.12 | 2.5 | AV (2) | 449 | -60 2126 | 92554 | 0.42 | 0.31 | 1.0 | |
| 343 | -59 1528 | 86214 | 0.26 | 0.16 | 2.0 | | 451 | -60 2125 | 92555 | 0.27 | 0.20 | 0.0 | |
| 345 | -62 1360 | 86272 | | | 1.5 | | 452 | -62 1706 | | 0.47 | 0.27 | 2.0 | |
| 346 | -52 2962 | | 0.09 | | 0.0 | | 453 | -60 2150 | 92704 | 0.23 | 0.09 | 1.0 | |
| 347 | -50 2889 | 86352 | 0.03 | 0.03 | 0.5 | AV (2) | 454 | -57 3671 | 92714 | | | 3.0 | |
| 348 | -52 2980 | 86466 | 0.06 | 0.13 | 0.0 | 5 | 456 | -56 3676 | 92850 | 0.32 | 0.23 | 1.0 | |
| 349 | -55 2704 | 86490 | 0.59 | 0.32 | 5.0 | | 457 | -56 3696 | 92936 | 0.20 | 0.12 | 1.0 | 1 |
| 351 | -59 1559 | 86689 | | | 1.0 | 2 | 459 | -61 1842 | 93208 | 0.23 | 0.14 | 2.0 | 1 |
| 356 | -54 3033 | 87166 | 0.51 | 0.32 | 3.0 | | 460 | -57 3756 | | 0.67 | 0.46 | 5.0 | 12 |
| 359 | -52 3087 | 87152 | 0.07 | 0.10 | 1.0 | | 461 | -60 2265 | 93445 | 0.27 | 0.18 | 2.0 | 1 |
| 361 | -60 1602 | 87406 | 0.18 | 0.17 | 2.0 | 15 | 463 | -54 4029 | 93561 | | | 1.0 | |
| 362 | -53 3218 | 87380 | 0.21 | 0.23 | 2.0 | | 466 | -55 3847 | 93631 | 0.38 | 0.20 | 3.0 | |
| 363 | -57 2580 | 87384 | 0.60 | 0.39 | 5.0 | | 468 | -59 2712 | 93683 | | | 1.0 | |
| 364 | -57 2596 | 87494 | 0.65 | 0.47 | 4.0 | | 469 | -63 1672 | 93738 | -0.03 | -0.14 | 0.0 | 3 |
| 365 | -61 1441 | 87543 | | | 1.0 | | 472 | -59 2732 | 93843 | | | 0.0 | |
| 368 | -58 1886 | | 0.74 | 0.57 | 3.5 | | 473 | -60 2298 | 93827 | 0.25 | 0.21 | 2.0 | 1 |
| 370 | -62 1438 | 88115 | 0.19 | 0.13 | 2.0 | 1 | 474 | -59 2735 | 93858 | 0.44 | 0.27 | 3.5 | 1 |
| 371 | -57 2696 | | 0.45 | 0.29 | 3.5 | | 475 | -58 2747 | 93873 | 0.66 | 0.46 | 3.5 | 1 |
| 376 | -60 1708 | 88412 | 0.18 | 0.17 | 1.0 | | 476 | -58 2750 | 93890 | 0.96 | 0.73 | 5.0 | 1 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS | HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 477 | -57 3856 | 94024 | 0.45 | 0.29 | 2.0 | | 558 | -58 3477 | 98614 | 0.37 | 0.27 | 3.0 | |
| 478 | -55 3902 | | 0.35 | 0.23 | 3.0 | | 561 | -59 3376 | 98733 | 0.41 | 0.13 | 3.0 | 12 |
| 480 | -59 2791 | 94230 | 0.57 | 0.36 | 3.5 | 1 | 563 | -60 2867 | 98927 | | | 1.0 | |
| 482 | -57 3895 | 94304 | 0.55 | 0.37 | 1.0 | | 564 | -58 3534 | 98955 | 0.25 | 0.19 | 2.0 | |
| 483 | -58 2801 | | | | 7.0 | | 565 | -58 3566 | 99146 | | | 1.0 | |
| 484 | -59 2802 | 94345 | 0.35 | 0.25 | 3.5 | | 566 | -60 2893 | 99160 | 0.53 | 0.39 | 1.0 | 35 |
| 485 | -58 2809 | 94370 | | | 0.0 | | 567 | -69 1537 | 99205 | 0.27 | 0.20 | 4.0 | |
| 487 | -60 2359 | 94493 | 0.20 | 0.11 | 1.0 | 1 | 568 | -62 1992 | 99193 | 0.45 | 0.38 | 5.0 | |
| 488 | -61 1951 | 94559 | 0.26 | 0.21 | 1.0 | 15 | 570 | -62 2003 | 99316 | 0.33 | 0.25 | 1.0 | |
| 492 | -63 1748 | | 0.74 | 0.62 | 3.0 | 1 | 571 | -60 2920 | 99354 | 0.36 | 0.21 | 1.0 | 15 |
| 493 | -59 2855 | 94878 | | | 0.0 | | 573 | -60 2923 | 99391 | 0.24 | 0.18 | 2.0 | |
| 494 | -56 4016 | 94909 | 0.83 | 0.65 | 2.0 | | 574 | -59 3454 | 99416 | 0.28 | 0.24 | 2.0 | |
| 495 | -60 2395 | 94936 | 0.44 | 0.34 | 4.0 | | 575 | -58 3620 | 99545 | 0.29 | 0.20 | 0.0 | |
| 496 | -61 1975 | 94963 | | | 0.0 | | 577 | -65 1669 | 99857 | 0.34 | 0.23 | 2.0 | 1 |
| 497 | -59 2883 | 95095 | 0.53 | 0.41 | 2.5 | AV(2) | 579 | -64 1665 | 99856 | 0.55 | 0.40 | 2.0 | |
| 499 | -59 2899 | | 0.43 | 0.31 | 3.0 | | 580 | -61 2350 | 99897 | 0.49 | 0.35 | 2.0 | |
| 502 | -58 2916 | 95357 | 0.33 | 0.20 | 2.0 | 1 | 581 | -55 4399 | 99890 | 0.24 | 0.16 | 2.0 | |
| 504 | -58 2922 | 95461 | 0.65 | 0.46 | 3.0 | 1 | 583 | -57 4745 | 99939 | 0.29 | 0.21 | 2.0 | 1 |
| 505 | -59 2929 | | 0.64 | 0.46 | 3.0 | | 585 | -62 2039 | 99953 | 0.49 | 0.34 | 2.0 | 1 |
| 506 | -61 2022 | 95589 | 0.58 | 0.42 | 4.0 | | 586 | -63 1902 | 99992 | 0.38 | 0.23 | 1.0 | |
| 508 | -59 2961 | | 0.40 | 0.32 | 4.5 | AV(4) | 587 | -63 1904 | 100099 | 0.42 | 0.30 | 2.0 | 2 |
| 509 | -58 2963 | 95862 | 0.68 | 0.49 | 6.0 | | 589 | -62 2075 | 100199 | | | 2.0 | |
| 511 | -59 2972 | 95880 | 0.42 | 0.31 | 3.5 | AV(2) | 590 | -65 1675 | 100213 | 0.37 | 0.27 | 3.0 | |
| 512 | -59 2984 | | 0.40 | 0.30 | 3.0 | AV(2) | 591 | -59 3556 | 100242 | 0.40 | 0.18 | 2.5 | 1, AV(2) |
| 513 | -60 2505 | 96264 | 0.23 | 0.17 | 0.0 | | 592 | -62 2080 | 100243 | 0.37 | 0.27 | 4.0 | |
| 514 | -59 3024 | 96286 | 0.39 | 0.24 | 3.0 | 1 | 593 | -58 3693 | 100262 | 0.76 | 1.00 | ? | |
| 515 | -60 2511 | 96355 | 0.41 | 0.26 | 3.0 | 13 | 594 | -59 3562 | 100276 | 0.27 | 0.16 | 2.0 | 12 |
| 516 | -61 2064 | 96357 | | | 2.0 | 3 | 596 | -67 1758 | 100324 | | | 2.0 | |
| 517 | -59 3059 | 96669 | 0.43 | 0.33 | 3.0 | 1 | 597 | -63 1911 | 100323 | 0.32 | 0.22 | 3.0 | 12 |
| 518 | -59 3057 | 96670 | | | 2.0 | | 598 | -61 2391 | 100355 | 0.23 | 0.18 | 2.0 | |
| 519 | -59 3064 | 96715 | | | 2.0 | | 600 | -62 2094 | 100444 | 0.49 | 0.38 | 3.0 | |
| 520 | -55 4156 | 96864 | | | 2.5 | AV(2) | 601 | -58 3706 | | 0.43 | 0.30 | 3.0 | 3 |
| 522 | -60 2554 | 96883 | 0.51 | 0.25 | 2.0 | | 603 | -63 1919 | | 0.32 | 0.23 | 2.0 | 2 |
| 523 | -60 2555 | 96899 | 0.35 | 0.25 | 1.0 | 1 | 606 | -62 2142 | 101008 | 0.28 | 0.21 | 1.0 | |
| 524 | -56 4238 | 96917 | | | 0.0 | | 609 | -62 2163 | 101190 | | | 0.0 | |
| 525 | -59 3083 | 96945 | 0.47 | 0.37 | 4.5 | | 611 | -62 2164 | 101191 | 0.35 | 0.27 | 1.0 | |
| 526 | -60 2559 | 96946 | | | 2.0 | | 613 | -62 2168 | 101205 | 0.36 | 0.27 | 1.0 | 2 |
| 528 | -60 2571 | | 0.23 | 0.11 | 1.0 | | 614 | -62 2186 | 101298 | 0.40 | 0.28 | 0.0 | |
| 529 | -63 1852 | 97136 | 0.26 | 0.15 | 1.0 | | 615 | -62 2191 | 101332 | 0.33 | 0.23 | 2.0 | |
| 531 | -59 3114 | 97222 | 0.47 | 0.33 | 3.0 | | 616 | -62 2190 | 101333 | 0.41 | 0.29 | 3.0 | |
| 532 | -60 2606 | 97319 | 0.54 | 0.43 | 0.0 | 5 | 618 | -62 2205 | 101413 | 0.39 | 0.32 | ? | |
| 533 | -60 2613 | | 0.99 | 0.81 | 1.5 | AV(2) | 619 | -62 2206 | 101436 | 0.39 | 0.28 | 1.0 | |
| 534 | -60 2615 | 97352 | 0.39 | 0.24 | 3.0 | | 620N | -61 2508N | 101545N | | | 1.7 | AV(3) |
| 536 | -60 2638 | 97484 | 0.64 | 0.47 | 1.0 | 5 | 620S | -61 2508S | 101545S | | | 2.0 | |
| 537 | -64 1641 | 97522 | 0.48 | 0.35 | 2.0 | | 622 | -61 2541 | 101794 | | | 2.0 | |
| 538 | -59 3193 | 97557 | 0.24 | 0.17 | 2.0 | | 623 | -59 3727 | | | | 1.0 | |
| 539 | -59 3204 | | 0.44 | 0.29 | 2.0 | 1 | 625 | -61 2550 | 101838 | 0.27 | 0.17 | 2.0 | 1 |
| 543 | -60 2698 | 97707 | 0.39 | 0.21 | 1.0 | 15 | 626 | -59 3734 | 101850 | 0.27 | 0.23 | 0.0 | |
| 544 | -65 1646 | 97851 | 0.49 | 0.34 | 3.0 | | 627 | -60 3278 | | 0.33 | 0.20 | 5.0 | |
| 545 | -58 3351 | 97848 | 0.32 | 0.23 | 1.5 | 1, AV(2) | 629 | -62 2264 | 102153 | 0.20 | 0.04 | 3.0 | |
| 547 | -58 3366 | 97913 | 0.33 | 0.18 | 3.0 | 2 | 630 | -61 2611 | 102368 | 0.29 | 0.20 | ? | 15 |
| 548 | -58 3372 | 97966 | 0.36 | 0.26 | 2.0 | | 631 | -60 3333 | 102415 | 0.45 | 0.33 | 1.0 | |
| 550 | -62 1946 | 98097 | 0.34 | 0.27 | 1.5 | AV(2) | 632 | -61 2622 | 102475 | 0.24 | 0.20 | 2.0 | 1 |
| 553 | -57 4536 | 98310 | | | 3.0 | | 634 | -59 3809 | 102552 | 0.32 | 0.22 | 2.0 | 1 |
| 555 | -62 1964 | 98410 | | | 5.0 | | 639 | -61 2677 | 102878 | 0.27 | | 0.0 | 15 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 640 | -61 2691 | 102997 | 0.40 | 0.23 | 2.0 | 5 |
| 645 | -57 5086 | | | | 2.0 | |
| 647 | -59 3959 | 103762 | 0.24 | 0.16 | 3.0 | |
| 649 | -62 2455 | 103779 | 0.22 | 0.44 | 2.0 | 1 |
| 651 | -62 2512 | 104285 | 0.25 | 0.16 | 2.0 | |
| 652 | -61 2906 | 104553 | 0.31 | 0.19 | 2.0 | |
| 653 | -57 5199 | 104565 | 0.61 | 0.43 | 4.0 | |
| 654 | -61 2914 | 104631 | 0.32 | 0.24 | 1.0 | 1 |
| 655 | -63 2115 | 104683 | 0.20 | 0.14 | 2.0 | 1 |
| 656 | -62 2549 | 104705 | 0.24 | 0.17 | 2.0 | 1 |
| 657 | -62 2564 | 104876 | 0.63 | 0.46 | 4.0 | 1 |
| 659 | -64 1791 | 105071 | 0.21 | 0.12 | 1.0 | 4 |
| 660 | -57 5272 | | 0.62 | 0.45 | 2.0 | |
| 661 | -61 2987 | 105627 | 0.38 | 0.26 | 1.0 | |
| 662 | -63 2164 | | 0.29 | 0.18 | 3.0 | |
| 663 | -63 2162 | 105650 | 0.27 | 0.19 | 0.0 | 1 |
| 664 | -63 2166 | 105675 | | | 3.0 | |
| 665 | -63 2172 | 105753 | | | 1.0 | |
| 666 | -63 2178 | 105892 | 0.40 | 0.30 | 2.0 | 1 |
| 667 | -62 2626 | | | | 3.0 | |
| 668 | -62 2633 | 106261 | 0.38 | 0.26 | 2.5 | AV (2) |
| 669 | -61 3036 | 106325 | 0.48 | 0.36 | 4.5 | |
| 670 | -63 2203 | 106343 | 0.29 | 0.21 | 2.0 | 1 |
| 671 | -61 3039 | 106391 | 0.91 | 0.76 | 6.0 | |
| 673 | -60 3863 | 106590 | 0.47 | 0.34 | 3.0 | 1 |
| 674 | -60 3864 | | 0.91 | 0.72 | 6.0 | |
| 675 | -64 1835 | 106616 | 0.23 | 0.20 | 3.0 | 1 |
| 676 | -59 4147 | | 0.74 | 0.58 | 4.0 | |
| 677 | -62 2659 | 106708 | 0.40 | 0.30 | 2.0 | |
| 678 | -63 2219 | 106730 | | | 0.0 | |
| 680 | -57 5375 | 106871 | 0.46 | 0.32 | 3.0 | |
| 686 | -64 1877 | 107565 | 0.40 | 0.27 | 2.0 | |
| 688 | -62 2707 | | 0.32 | 0.19 | 2.0 | |
| 689 | -64 1879 | 107593 | 0.26 | 0.22 | ? | 12 |
| 690 | -59 4193 | | 0.53 | 0.37 | 3.0 | |
| 692 | -64 1883 | 107667 | 0.25 | 0.22 | 2.0 | 1 |
| 693 | -61 3121 | | 0.47 | 0.36 | 1.0 | 2 |
| 694 | -64 1898 | 108002 | 0.30 | 0.19 | ? | 12 |
| 695 | -61 3166 | 108170 | 0.60 | 0.43 | 5.0 | |
| 697 | -61 3198 | 108434 | 0.44 | 0.37 | 2.0 | |
| 698 | -61 3212 | | | | 0.0 | |
| 699 | -60 4047 | 108639 | 0.38 | 0.29 | 1.0 | 15 |
| 700 | -72 1275 | 109399 | 0.25 | 0.17 | 1.0 | 12 |
| 701 | -60 4170 | 109505 | 0.49 | 0.31 | 2.0 | 1 |
| 703 | -66 1861 | 109867 | 0.24 | 0.13 | 2.0 | 12 |
| 704 | -70 1502 | 109885 | 0.37 | 0.22 | 0.0 | 1 |
| 706 | -61 3327 | 109978 | 0.72 | 0.52 | 3.0 | |
| 708 | -59 4396 | 110360 | 0.49 | 0.34 | 1.5 | |
| 710 | -64 1997 | | 0.39 | 0.25 | 2.0 | 1 |
| 711 | -59 4423 | 110863 | | | 3.0 | |
| 713 | -60 4285 | 110984 | 0.77 | 0.61 | 5.0 | 1 |
| 718 | -59 4460 | 111193 | 0.44 | 0.33 | 3.0 | 1 |
| 720 | -71 1389 | 111290 | 0.22 | 0.16 | 2.0 | 1 |
| 721 | -60 4309 | 111377 | 0.39 | 0.26 | 3.0 | |
| 722 | -68 1777 | 111558 | 0.11 | 0.01 | 1.0 | |
| 725 | -60 4341 | 111886 | 0.32 | 0.26 | 4.0 | |
| 726 | -59 4538 | 111916 | 0.52 | 0.37 | 4.0 | 1 |
| 728 | -60 4350 | 112027 | 0.85 | 0.72 | 5.0 | |
| 729 | -60 4351 | 112026 | 0.30 | 0.22 | 1.0 | 1 |
| 730 | -59 4579 | 112168 | 0.21 | 0.09 | 0.0 | |
| 731 | -59 4580 | 112181 | 0.35 | 0.25 | 4.5 | 1 |
| 732 | -58 4593 | 112202 | 0.36 | 0.28 | 3.0 | |
| 733 | -63 2454 | 112272 | 1.01 | 0.76 | 4.0 | 1, AV (3) |
| 734 | -59 4600 | 112364 | 0.39 | 0.27 | 3.0 | 1 |
| 737 | -57 5810 | 112484 | 0.30 | 0.19 | 2.0 | 1 |
| 738 | -60 4372 | 112497 | 0.64 | 0.52 | 2.0 | 1 |
| 739 | -61 3401 | 112661 | 0.99 | 0.61 | 3.5 | 3 |
| 740 | -59 4629 | 112690 | 0.45 | 0.32 | 3.0 | |
| 742 | -63 2474 | 112751 | 0.64 | 0.50 | 4.5 | 1, AV (2) |
| 744 | -59 4634 | 112784 | 0.36 | 0.28 | 3.0 | |
| 745 | -69 1743 | | 0.30 | 0.24 | 3.5 | 1 |
| 746 | -59 4640 | 112842 | 0.31 | 0.34 | 2.0 | 1 |
| 747 | -71 1416 | 112843 | 0.32 | 0.24 | 2.0 | 1 |
| 749 | -59 4651 | 112999 | 0.21 | 0.04 | 2.0 | 2 |
| 751 | -59 4654 | 113012 | 0.34 | 0.23 | 2.0 | 1 |
| 752 | -63 2485 | 113016 | 0.46 | 0.36 | 3.0 | |
| 755 | -56 5541 | 113109 | 0.28 | 0.20 | 2.0 | |
| 756 | -70 1553 | 113120 | | | 1.0 | |
| 758 | -60 4396 | 113163 | 0.53 | 0.41 | 2.0 | 1 |
| 762 | -63 2512 | | 0.78 | 0.54 | 3.3 | 1, AV (2) |
| 763 | -63 2513 | | 0.92 | 0.66 | 2.5 | 1, AV (2) |
| 764 | -59 4711 | 113421 | 0.49 | 0.34 | 4.0 | |
| 765 | -61 3439 | 113422 | 1.00 | 0.75 | 4.0 | 1 |
| 766 | -62 2993 | 113432 | 0.96 | 0.75 | 6.0 | 1 |
| 767 | -63 2519 | 113511 | 0.76 | 0.56 | 4.0 | |
| 768 | -63 2527 | 113606 | 0.74 | 0.57 | 4.0 | |
| 769 | -61 3445 | 113605 | | | 3.0 | |
| 776 | -61 3462 | | 0.82 | 0.65 | 2.5 | 1, AV (2) |
| 778 | -60 4466 | 114011 | 0.95 | 0.80 | 5.0 | 1 |
| 779 | -59 4769 | 114026 | 0.37 | 0.23 | 4.0 | |
| 782 | -62 3028 | 114122 | 0.79 | 0.59 | 4.0 | 12 |
| 783 | -64 2212 | 114169 | 0.23 | 0.12 | 0.0 | 1 |
| 785 | -60 4485 | 114213 | 1.12 | 0.95 | 3.0 | 1 |
| 786 | -70 1567 | 114200 | | | 1.0 | 2 |
| 787 | -59 4801 | 114341 | | | 2.0 | |
| 788 | -59 4804 | 114340 | 0.73 | 0.50 | 4.0 | 1 |
| 789 | -58 4723 | 114394 | 0.40 | 0.26 | 2.0 | |
| 790 | -60 4512 | 114530 | 0.62 | 0.47 | 3.0 | 1 |
| 793 | -60 4528 | | 0.48 | 0.31 | 2.0 | 1 |
| 794 | -61 3512 | | 0.61 | 0.44 | 3.0 | |
| 795 | -57 5952 | 114733 | 0.53 | 0.38 | 2.0 | |
| 796 | -62 3079 | 114737 | 0.50 | 0.36 | 3.0 | |
| 798 | -62 3090 | 114800 | | | 3.5 | |
| 799 | -62 3096 | 114886 | 0.43 | 0.32 | 3.0 | |
| 800 | -60 4551 | | | | 5.0 | |
| 801 | -63 2662 | 115034 | 0.37 | 0.23 | 3.5 | |
| 803 | -61 3539 | 115042 | 0.95 | 0.74 | 5.0 | 1 |
| 804 | -60 4558 | | | | 3.0 | |
| 805 | -61 3544 | 115071 | 0.52 | 0.32 | 2.0 | |
| 807 | -61 3546 | 115114 | | | ? | 3 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 808 | -61 3566 | 115316 | 0.50 | 0.33 | 3.0 | |
| 809 | -63 2684 | 115363 | 0.81 | 0.56 | 7.0 | 1 |
| 810 | -61 3575 | 115455 | 0.53 | 0.39 | 3.0 | 3 |
| 812 | -61 3608 | 115704 | | | 6.0 | |
| 812A | -61 3600A | | 0.69 | 0.48 | 0.0 | |
| 812B | -61 3603B | | | | 0.0 | |
| 812C | -61 3615C | | | | 0.0 | |
| 814 | -55 5504 | 115842 | 0.53 | 0.35 | 3.0 | 1 |
| 815 | -59 4926 | 116003 | 0.25 | 0.16 | 2.0 | 125 |
| 816 | -59 4951 | 116282 | 0.72 | 0.52 | 3.0 | |
| 817 | -60 4651 | 116438 | 0.44 | 0.33 | 2.0 | 1 |
| 818 | -58 4858 | 116491 | 0.36 | 0.24 | 4.0 | |
| 819 | -62 3270 | 116781 | | | 1.0 | |
| 820 | -62 3271 | 116796 | 0.36 | 0.25 | 1.0 | |
| 821 | -63 2778 | 117024 | 0.26 | 0.23 | 1.0 | 12 |
| 822 | -61 3736 | | | | 2.0 | 1 |
| 823 | -60 4708 | | | | ? | 3 |
| 824 | -64 2428 | 117111 | | | 3.0 | |
| 826 | -60 4718 | | 0.55 | 0.44 | 3.0 | |
| 827 | -63 2789 | 117326 | 0.36 | 0.24 | 1.0 | 3 |
| 828 | -61 3760 | 117357 | | | 2.0 | 1 |
| 830 | -62 3326 | 117460 | 0.26 | 0.23 | 1.0 | |
| 831 | -60 4744 | 117490 | | | 1.0 | |
| 832 | -60 4759 | 117687 | 0.36 | 0.26 | 2.0 | |
| 833 | -61 3793 | 117704 | 0.46 | 0.35 | 1.0 | |
| 834 | -64 2468 | 117707 | 0.75 | 0.56 | 4.0 | 13 |
| 836 | -62 3374 | 117856 | 0.51 | 0.40 | 2.0 | |
| 839 | -61 3825 | 118016 | 0.35 | 0.29 | 1.0 | 1 |
| 840 | -63 2856 | 118198 | 0.46 | 0.33 | 1.0 | |
| 845 | -60 4836 | 118571 | 0.26 | 0.17 | 2.0 | |
| 849 | -63 2942 | 119547 | 0.28 | 0.22 | 1.0 | |
| 850 | -61 3987 | 119646 | 0.35 | 0.30 | 2.0 | 1 |
| 851 | -60 4951 | 119815 | 0.29 | 0.24 | 2.0 | |
| 852 | -62 3600 | 119911 | 0.30 | 0.19 | 3.0 | |
| 854 | -61 4046 | 120211 | 0.35 | 0.23 | 2.0 | |
| 855 | -57 6339 | 120521 | | | 3.0 | |
| 857 | -62 3703 | 120678 | | | 0.0 | |
| 858 | -65 2503 | 120680 | 0.32 | 0.24 | 2.0 | |
| 860 | -60 5056 | 120739 | 0.47 | | 4.0 | |
| 861 | -62 3725 | | 0.36 | 0.31 | 4.0 | |
| 864 | -58 5282 | 121228 | 0.43 | 0.32 | 2.0 | 15 |
| 865 | -59 5310 | 121556 | | | 2.0 | |
| 868 | -55 5841 | 122324 | 0.61 | 0.44 | 2.3 | 1, AV (2) |
| 869 | -61 4286 | 122313 | 0.61 | 0.45 | 4.5 | AV (2) |
| 870 | -61 4292 | | 0.43 | 0.32 | 4.0 | 1 |
| 871 | -58 5340 | 122450 | | | 3.0 | 4 |
| 872 | -61 4317 | 122669 | | | 3.0 | AV (2) |
| 873 | -61 4318 | 122691 | | | 3.0 | |
| 874 | -59 5395 | 122879 | 0.37 | 0.26 | 1.0 | |
| 875 | -63 3134 | 123008 | | | 5.0 | |
| 876 | -59 5404 | 123056 | 0.47 | 0.35 | 3.5 | |
| 879 | -58 5383 | 123335 | 0.20 | | 0.5 | 1, AV (2) |
| 880 | -62 4007 | | 0.40 | 0.21 | 4.0 | |
| 882 | -65 2655 | 124197 | 0.16 | 0.20 | 2.0 | 2 |
| 883 | -56 6206 | 124367 | | | 2.0 | |
| 887 | -65 2681 | 125159 | | | 3.0 | |
| 889 | -60 5300 | 125241 | 0.79 | 0.57 | 4.5 | AV (2) |
| 890 | -57 6616 | 125545 | 0.34 | 0.28 | 2.0 | 1 |
| 891 | -58 5515 | 125792 | 0.75 | 0.57 | 5.0 | 1 |
| 893 | -59 5593 | | 0.75 | 0.50 | 5.0 | |
| 895 | -63 3268 | 126693 | | | 5.0 | |
| 897 | -63 3303 | 127489 | | | 2.5 | |
| 898 | -59 5634 | | 1.06 | 0.80 | 5.0 | |
| 901 | -60 5437 | 127756 | | | 3.0 | |
| 903 | -60 5449 | 129926 | 0.61 | 0.45 | 4.0 | |
| 906 | -57 6712 | 128089 | 0.68 | 0.47 | 3.0 | |
| 908 | -64 2961 | 128522 | 0.43 | 0.31 | 4.0 | 1 |
| 912 | -62 4263 | 129225 | 0.58 | 0.35 | 3.0 | |
| 915 | -55 6150 | 129557 | 0.18 | 0.09 | 1.0 | 1 |
| 918 | -55 6191 | 130298 | | | 3.0 | |
| 919 | -58 5725 | 130350 | 0.83 | 0.61 | 5.0 | |
| 923 | -55 6296 | 132481 | 0.16 | 0.09 | 0.0 | 5 |
| 927 | -56 6567 | 132984 | 0.22 | 0.10 | 0.0 | 5 |
| 928 | -51 7536 | 133518 | 0.14 | 0.14 | 0.0 | 5 |
| 929 | -61 4838 | 133738 | | | 1.0 | |
| 930 | -65 2993 | 133823 | 0.28 | 0.21 | 1.0 | |
| 934 | -65 3001 | 134401 | | | 2.0 | |
| 938 | -62 4423 | 134733 | 0.60 | 0.42 | 2.0 | |
| 941 | -57 6957 | 134844 | 0.48 | 0.31 | 5.0 | |
| 943 | -58 5866 | 134959 | 1.15 | 0.89 | 5.0 | |
| 944 | -57 6960 | 134958 | | | 4.0 | |
| 945 | -54 6410 | 135038 | 0.09 | | 0.0 | 5 |
| 947 | -52 8049 | 135113 | 0.39 | 0.43 | 1.0 | |
| 948 | -61 4882 | | 0.49 | | 1.0 | 2 |
| 950 | -61 4896 | | | | 4.0 | |
| 951 | -54 6445 | 135885 | 0.32 | 0.28 | 1.0 | |
| 952 | -60 5744 | | 0.33 | 0.31 | 3.0 | |
| 953 | -59 5917 | 135917 | 0.17 | 0.05 | 0.0 | |
| 954 | -55 6509 | 136003 | 0.44 | 0.33 | 3.0 | 1 |
| 957 | -58 5897 | 136239 | 1.09 | 0.86 | 5.0 | 1 |
| 958 | -58 5910 | 136471 | 1.01 | 0.82 | 7.0 | |
| 959 | -49 8031 | 136556 | | | 4.0 | |
| 960 | -63 3580 | | 0.47 | 0.30 | 3.0 | |
| 967 | -60 5814 | 137405 | 0.33 | 0.33 | 1.0 | 1 |
| 968 | -44 7405 | 137518 | | | 2.0 | |
| 969 | -59 6020 | 137439 | 0.43 | 0.42 | 2.0 | |
| 971 | -59 6033 | 137543 | 0.35 | 0.34 | 1.0 | |
| 976 | -60 5868 | | 0.42 | 0.34 | 3.0 | 1 |
| 978 | -59 6095 | 138112 | 0.40 | 0.36 | 4.0 | |
| 984 | -60 5926 | 138679 | 0.22 | 0.19 | 1.0 | |
| 986 | -58 6089 | 138729 | 0.72 | 0.50 | 4.5 | |
| 992 | -45 7545 | | 0.26 | 0.15 | 0.0 | 4 |
| 993 | -49 8451 | 139790 | | | 4.0 | 3 |
| 1000 | -58 6277 | 140336 | | | 3.0 | |
| 1010 | -54 6687 | 140926 | | | 3.0 | |
| 1011 | -59 6345 | 140946 | | | 4.0 | |
| 1017 | -61 5327 | | 0.30 | 0.22 | 3.5 | |
| 1019 | -59 6394 | 141522 | 0.45 | 0.37 | 3.0 | |
| 1022 | -61 5361 | | 0.33 | 0.29 | 2.0 | |
| 1023 | -54 6759 | 141926 | | | 3.5 | AV (2) |



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TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 1025 | -54 6788 | 142152 | 0.66 | 0.44 | 3.0 | |
| 1030 | -54 6802 | 142237 | | | 0.0 | |
| 1034 | -56 7084 | 142452 | 0.07 | | 0.0 | |
| 1035 | -53 6845 | 142468 | 0.81 | 0.59 | 5.0 | 1 |
| 1037 | -54 6849 | 142565 | 0.68 | 0.50 | 5.0 | |
| 1038 | -53 6868 | 142634 | 0.96 | 0.73 | 4.0 | |
| 1039 | -40 7155 | 142754 | 0.44 | 0.29 | 2.0 | |
| 1040 | -54 6878 | 142775 | 0.95 | 0.74 | 6.0 | |
| 1041 | -58 6543 | 142758 | 0.39 | 0.30 | 3.0 | 1 |
| 1047 | -54 6938 | 143218 | 0.61 | 0.38 | 1.0 | |
| 1050 | -60 6348 | 143448 | | | 3.0 | |
| | -60 6349 | | | | 1.0 | |
| 1051 | -48 8139 | 143545 | | | 3.0 | |
| 1055 | -56 7228 | 143605 | 0.36 | 0.31 | 3.0 | |
| 1058 | -47 7528 | 143700 | | | 5.0 | |
| 1059 | -51 8896 | 143738 | 0.34 | 0.33 | 3.0 | |
| 1060 | -49 8910 | | 0.69 | 0.56 | 5.0 | |
| 1067 | -54 7060 | 144320 | | | 3.0 | |
| 1068 | -47 7546 | 144439 | 1.03 | 0.86 | 7.0 | |
| 1069 | -54 7093 | 144479 | 0.20 | | 1.0 | |
| 1071 | -51 8967 | 144555 | | | 5.0 | |
| 1073 | -55 7124 | 144575 | 0.29 | 0.31 | 2.0 | |
| 1077 | -49 8961 | 144695 | 0.90 | 0.66 | 6.0 | |
| 1078 | -55 7162 | 144858 | 0.16 | | 0.0 | 5 |
| 1080 | -55 7159 | 144816 | 0.32 | 0.34 | 1.0 | |
| 1086 | -48 8198 | 144969 | 1.12 | 0.88 | 6.0 | 1 |
| 1088 | -55 7175 | 144951 | 0.21 | 0.16 | 1.0 | |
| 1089 | -51 9021 | 145107 | | | ? | 4 |
| 1090 | -53 7350 | 145304 | 0.33 | 0.18 | 4.0 | |
| 1093 | -51 9082 | 145492 | 0.77 | 0.58 | 6.5 | AV (2) |
| 1099 | -52 9393 | 145664 | 0.51 | 0.28 | 4.0 | |
| 1100 | -52 9416 | 145794 | 0.48 | 0.31 | 4.0 | |
| 1101 | -52 9422 | 145846 | | | 3.0 | 24 |
| 1102 | -25 5777 | 146001 | 0.13 | -0.05 | 0.0 | |
| 1105 | -50 9141 | 146058 | 0.70 | 0.54 | 5.0 | 1 |
| 1109 | -53 7650 | 146224 | 0.13 | | 0.0 | |
| 1110 | -49 9136 | 146444 | | | 3.0 | |
| 1111 | -56 7552 | 146427 | 0.33 | 0.25 | 3.0 | |
| 1112 | -54 7452 | 146463 | | | 0.0 | |
| 1113 | -57 7854 | 146428 | 0.20 | 0.19 | 2.0 | 4 |
| 1115 | -52 9604 | 146805 | 0.24 | 0.22 | 0.0 | |
| 1118 | -52 9643 | 146955 | 0.36 | 0.29 | ? | |
| 1119 | -52 9668 | 147049 | 0.54 | 0.43 | ? | 1 |
| 1120 | -52 9685 | 147090 | 0.29 | 0.28 | 2.0 | 4 |
| 1123 | -52 9731 | 147274 | | | 0.0 | |
| 1124 | -51 9449 | 147318 | 0.66 | 0.51 | 3.0 | 4 |
| 1125 | -55 7498 | 147302 | 0.22 | 0.15 | 3.0 | |
| 1126 | -52 9741 | 147331 | 0.60 | 0.46 | 4.0 | 2 |
| 1127 | -51 9456 | 147359 | 0.34 | 0.28 | 3.0 | |
| 1128 | -54 7624 | 147347 | 0.19 | | 1.0 | |
| 1129 | -54 7632 | 147362 | 0.18 | 0.19 | 3.0 | |
| 1130 | -59 6723 | | | | 1.0 | |
| 1131 | -34 6506 | 147683 | 0.37 | 0.34 | 1.0 | |
| 1132 | -51 9506 | 147617 | 0.58 | 0.43 | ? | |
| 1133 | -55 7540 | 147690 | 0.26 | 0.21 | 1.0 | |
| 1134 | -45 7912 | 147756 | | | 3.0 | |
| 1135 | -51 9526 | | 0.49 | 0.37 | 2.0 | 12 |
| 1137 | -47 7683 | 147894 | 0.17 | 0.23 | 1.0 | 3 |
| 1138 | -52 9838 | 147880 | 0.19 | | 0.0 | 4 |
| 1139 | -53 7991 | 147942 | 0.26 | 0.22 | 0.0 | |
| 1140 | -50 9410 | 147987 | 0.15 | 0.14 | 0.0 | |
| 1141 | -53 7997 | | | | 3.0 | |
| 1142 | -57 8026 | 148063 | 0.24 | 0.11 | 2.0 | 1 |
| 1143 | -53 8012 | 148106 | 0.24 | 0.17 | 0.0 | |
| 1145 | -44 7909 | 148260 | 0.60 | 0.46 | 6.0 | 1 |
| 1146 | -44 7910 | 148259 | 0.37 | 0.32 | 3.5 | 2 |
| 1148 | -45 7969 | 148379 | 0.75 | 0.56 | 5.0 | 1 |
| 1151 | -56 7729 | 148422 | 0.29 | 0.18 | 0.0 | 1 |
| 1152 | -38 6416 | 148537 | 0.74 | | 2.0 | |
| 1153 | -37 6675 | 148546 | 0.58 | 0.43 | 4.0 | 2 |
| 1154 | -55 7569 | 148473 | 0.22 | | 1.0 | |
| 1155 | -46 8038 | 148567 | | | 3.0 | 3 |
| 1156 | -54 7736 | 148549 | 0.29 | 0.16 | 3.0 | |
| 1157 | -52 9965 | 148720 | 0.41 | 0.30 | 4.0 | 1 |
| 1159 | -41 7504 | 148887 | 0.55 | 0.51 | 6.0 | |
| 1160 | -50 9496 | 148877 | | | 0.0 | |
| 1161 | -52 9998 | 148878 | 0.57 | 0.44 | ? | 2 |
| 1162 | -47 7765 | 148937 | | | 4.0 | 3 |
| 1164 | -48 8575 | 148989 | 0.84 | 0.60 | 7.0 | 1 |
| 1166 | -46 8067 | 149076 | 0.49 | 0.35 | 4.0 | 3 |
| 1167 | -41 7510 | 149125 | 0.66 | 0.43 | 6.0 | |
| 1168 | -49 9429 | | 0.62 | 0.21 | 4.0 | |
| 1169 | -53 8064 | 149100 | 0.19 | 0.16 | 0.0 | |
| 1171 | -33 4064 | 149255 | 0.25 | 0.28 | 0.0 | 4 |
| 1172 | -34 6555 | 149273 | 0.28 | 0.16 | 2.0 | |
| 1173 | -45 8027 | 149257 | 0.23 | 0.08 | 1.0 | |
| 1174 | -45 8028 | 149277 | 0.28 | 0.23 | 3.0 | 3 |
| 1175 | -41 7520 | 149276 | 0.60 | 0.46 | 6.0 | |
| 1176 | -41 7521 | 149313 | | | 6.0 | |
| 1178 | -46 8096 | 149452 | 0.66 | | 4.0 | |
| 1179 | -43 7637 | 149779 | 0.48 | 0.29 | 2.0 | 13 |
| 1180 | -52 10092 | 149729 | 0.22 | 0.10 | 3.0 | |
| 1182 | -53 8122 | 149922 | 0.22 | 0.19 | 2.0 | |
| 1183 | -39 7009 | 150059 | 0.44 | 0.37 | 0.0 | |
| 1184 | -36 7017 | 150069 | 0.36 | 0.30 | ? | 3 |
| 1185 | -48 8689 | 150041 | 0.39 | 0.28 | 1.0 | 1 |
| 1186 | -47 7821 | 150083 | 0.16 | | 0.0 | 3 |
| 1187 | -35 6763 | 150151 | 0.33 | | 0.0 | |
| 1188 | -48 8703 | 150136 | | | 0.0 | 5 |
| 1189 | -46 8138 | 150288 | | | 3.0 | |
| 1190 | -37 6726 | 150475 | 0.58 | 0.42 | 4.0 | |
| 1191 | -46 8151 | 150422 | | | 3.0 | |
| 1192 | -46 8158 | 150500 | 0.03 | | 0.0 | |
| 1193 | -47 7855 | | 0.63 | 0.58 | 4.0 | |
| 1194 | -45 8095 | 150533 | 0.92 | 0.72 | ? | |
| 1195 | -47 7858 | | 0.59 | 0.37 | 4.0 | 4 |
| 1196 | -45 8100 | 150574 | 0.55 | 0.39 | 3.0 | |
| 1197 | -47 7862 | | 0.59 | 0.44 | 5.0 | |
| 1198 | -41 7570 | | 0.67 | 0.49 | 3.0 | |
| 1199 | -51 9908 | 150839 | 0.40 | 0.31 | 4.0 | |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 1200 | -37 6728 | 150927 | 0.59 | 0.43 | 1.0 | 34 |
| 1201 | -46 8223 | 150958 | | | 5.0 | |
| 1202 | -41 7600 | 151003 | 0.47 | 0.36 | 3.0 | |
| 1203 | -45 8127 | 151018 | 0.90 | 0.69 | 6.0 | |
| 1204 | -51 9933 | 151083 | | | 1.0 | 13 |
| 1205 | -41 7617 | 151139 | 0.55 | 0.40 | 5.0 | |
| 1206 | -40 7505 | 151212 | 0.41 | 0.26 | 2.5 | AV (2) |
| 1207 | -47 7911 | 151213 | 0.51 | 0.38 | 4.0 | 1 |
| 1208 | -46 8242 | 151300 | | | 0.0 | 4 |
| 1209 | -30 4475 | 151395 | 0.10 | 0.08 | 1.0 | 3 |
| 1210 | -39 7114 | 151397 | 0.47 | 0.31 | 4.0 | 1 |
| 1211 | -46 8252 | 151475 | 0.41 | 0.34 | 3.0 | |
| 1212 | -41 7649 | 151515 | | | 3.5 | |
| 1213 | -41 7651 | 151564 | 0.41 | 0.27 | 3.0 | |
| 1218 | -47 7934 | 151835 | 0.98 | 0.75 | 3.0 | 1 |
| 1220 | -38 6560 | 152002 | 0.44 | 0.36 | 1.5 | |
| 1221 | -41 7681 | 152042 | 0.41 | 0.27 | 2.0 | |
| 1222 | -52 1030 | 1519900 | 0.40 | 0.27 | 0.0 | 4 |
| 1224 | -43 7731 | 152077 | 0.53 | 0.41 | 4.0 | 1 |
| 1225 | -31 4503 | 152180 | 0.27 | | 0.0 | 3 |
| 1226 | -31 4504 | 152179 | 0.48 | 0.34 | 4.0 | |
| 1227 | -41 7694 | 152147 | 0.68 | 0.50 | 6.0 | 3 |
| 1228 | -41 7699 | 152182 | 0.34 | 0.20 | 3.0 | 13 |
| 1229 | -41 7704 | 152197 | 0.44 | 0.30 | 1.0 | |
| 1230 | -41 7708 | 152217 | 0.47 | 0.39 | 2.0 | |
| 1231 | -40 7569 | 152245 | 0.39 | 0.30 | 3.0 | 1 |
| 1232 | -28 5445 | 152286 | 0.22 | 0.08 | 1.0 | |
| 1233 | -40 7570 | 152246 | 0.49 | 0.35 | ? | |
| 1234 | -40 7573 | 152268 | 0.41 | 0.29 | 3.0 | 1 |
| 1235 | -40 7576 | 152292 | 0.38 | 0.24 | 1.0 | |
| 1236 | -41 7754 | 152333 | 0.53 | 0.41 | 3.0 | |
| 1238 | -40 7592 | | 0.32 | 0.21 | 2.0 | |
| 1239 | -48 8913 | 152372 | 0.44 | 0.29 | 2.0 | |
| 1240 | -44 8104 | 152386 | | | 4.0 | 2 |
| 1241 | -40 7596 | 152405 | 0.41 | 0.30 | 3.0 | |
| 1242 | -41 7763 | 152424 | 0.66 | 0.49 | 4.0 | |
| 1243 | -38 6577 | 152456 | 0.09 | | 0.0 | |
| 1244 | -21 6238 | 152516 | 0.30 | 0.25 | 0.0 | |
| 1245 | -47 7958 | | 0.91 | 0.76 | 4.0 | |
| 1247 | -40 7615 | 152560 | 0.39 | 0.21 | 3.0 | 3 |
| 1248 | -40 7617 | 152559 | 0.39 | 0.25 | 0.0 | 24 |
| 1249 | -46 8299 | 152541 | 0.15 | | 0.0 | |
| 1250 | -40 7621 | 152591 | 0.42 | 0.28 | ? | 12 |
| 1251 | -44 8112 | | 0.65 | 0.46 | ? | 3 |
| 1252 | -40 7624 | 152590 | 0.47 | 0.34 | 2.0 | 24 |
| 1254 | -40 7633 | 152622 | 0.49 | 0.36 | 4.0 | 1 |
| 1255 | -40 7639 | 152667 | 0.50 | 0.35 | 0.0 | 1 |
| 1256 | -42 7569 | 152686 | 0.54 | 0.36 | 3.0 | 4 |
| 1257 | -40 7645 | | 0.42 | 0.35 | 4.0 | 2 |
| 1258 | -40 7650 | 152723 | 0.46 | 0.34 | 1.0 | |
| 1259 | -55 7751 | 152640 | 0.15 | 0.11 | 0.0 | 2 |
| 1260 | -43 7749 | 152756 | 0.93 | 0.76 | ? | |
| 1261 | -45 8215 | 152743 | 0.40 | 0.33 | 1.0 | |
| 1262 | -19 6061 | 152909 | 0.21 | 0.19 | 0.0 | |
| 1263 | -45 8227 | 152853 | 0.35 | 0.27 | 3.0 | 2 |
| 1264 | -37 6811 | 152901 | 0.36 | 0.31 | 1.0 | 2 |
| 1266 | -19 6065 | | 0.32 | 0.26 | 2.0 | |
| 1267 | -45 8234 | 152979 | 0.44 | 0.32 | 4.0 | |
| 1268 | -29 4541 | 153084 | 0.18 | 0.11 | 1.0 | |
| 1269 | -46 8324 | 153106 | 0.22 | 0.13 | 2.0 | |
| 1270 | -46 8327 | 153140 | 0.63 | 0.49 | 5.0 | 3 |
| 1272 | -43 7768 | 153178 | 0.92 | 0.69 | 3.5 | 1 |
| 1273 | -43 7769 | 153199 | 0.45 | 0.38 | 3.0 | |
| 1274 | -31 4534 | 153294 | 0.29 | 0.21 | 0.0 | 3 |
| 1275 | -49 9714 | 153222 | | | 2.0 | |
| 1277 | -42 7590 | 153295 | | | 1.0 | 2 |
| 1279 | -40 7694 | 153677 | 0.36 | 0.39 | 1.0 | |
| 1280 | -32 4327 | 153839 | 0.23 | | 1.0 | |
| 1281 | -31 4549 | 153855 | 0.18 | 0.15 | 2.0 | 12 |
| 1282 | -47 8014 | 153827 | 0.29 | 0.28 | 3.0 | |
| 1283 | -24 5799 | 153977 | 0.27 | 0.41 | 1.0 | 3 |
| 1284 | -51 10144 | 153879 | | | 3.0 | |
| 1286 | -46 8376 | 154041 | 0.82 | 0.61 | 6.0 | 1 |
| 1287 | -45 8296 | 154042 | 0.58 | 0.44 | 3.5 | |
| 1288 | -27 5572 | 154150 | 0.39 | 0.25 | 4.0 | 1 |
| 1289 | -52 10438 | 154111 | 0.21 | 0.17 | 2.0 | |
| 1290 | -48 8995 | 154154 | | | 4.0 | |
| 1291 | -36 7131 | 154218 | | | 1.0 | |
| 1292 | -35 6846 | 154217 | 0.71 | 0.50 | 3.0 | 12 |
| 1293 | -21 6299 | 154293 | 0.27 | | 0.0 | |
| 1294 | -36 7134 | 154243 | | | 2.0 | |
| 1296 | -42 7631 | 154313 | 1.07 | 0.86 | 4.0 | |
| 1297 | -35 6849 | 154368 | 0.79 | 0.59 | 1.0 | |
| 1298 | -46 8391 | 154339 | 0.55 | 0.33 | 4.0 | |
| 1300 | -35 6852 | 154385 | 0.61 | 0.49 | 2.5 | 1, AV (2) |
| 1301N | -35 6856N | 154407N | | | 2.0 | |
| 1301S | -35 6856S | 154407S | | | 2.0 | |
| 1302 | -35 6860 | 154450 | | | 0.0 | |
| 1303 | -48 9010 | 154388 | 0.43 | 0.35 | 2.0 | 5 |
| 1305 | -34 6725 | 154535 | 0.31 | 0.22 | 2.0 | 1 |
| 1307 | -33 4205 | | 0.30 | 0.20 | 2.0 | |
| 1308 | -34 6733 | 154643 | 0.57 | 0.45 | 1.0 | |
| 1309 | -37 6979 | 154834 | 0.40 | 0.30 | 2.0 | |
| 1310 | -46 8416 | 154811 | 0.67 | 0.49 | 3.5 | |
| 1311N | -46 8423N | 154873N | | | 3.0 | |
| 1311S | -46 8423S | 154873S | | | 3.0 | |
| 1312 | -38 6703 | 154911 | | | 2.0 | |
| 1313 | -46 8428 | 155020 | 0.33 | 0.32 | 3.0 | |
| 1314 | -41 7883 | 155051 | 0.74 | 0.53 | 4.0 | |
| 1315 | -55 7931 | 154970 | 0.13 | 0.14 | 1.0 | |
| 1316 | -41 7889 | 155134 | 0.64 | 0.46 | 4.0 | 3 |
| 1317 | -32 4385 | 155217 | 0.25 | 0.16 | 1.0 | |
| 1320 | -34 6760 | 155320 | 0.36 | 0.22 | 2.0 | |
| 1322 | -56 8449 | 155280 | 0.56 | 0.40 | 5.0 | |
| 1323 | -33 4251 | 155403 | 0.29 | 0.20 | 0.0 | |
| 1324 | -33 4252 | 155402 | 0.22 | 0.16 | 1.0 | 1 |
| 1325 | -37 7023 | 155416 | 0.40 | 0.34 | 3.0 | |
| 1328 | -44 8301 | 155436 | | | 6.0 | |
| 1329 | -51 10232 | 155418 | 0.24 | 0.27 | 1.0 | 5 |
| 1330 | -33 4263 | 155506 | 0.19 | 0.13 | 2.0 | 1 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B-V) | E(U-B) | C | REMARKS | HBG | CPD | HD | E(B-V) | E(U-B) | C | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1331 | -55 7965 | 155409 | 0.16 | 0.21 | 1.5 | | 1410 | -31 4739 | 158186 | 0.32 | 0.26 | 1.0 | |
| 1332 | -54 8115 | 155438 | 0.17 | 0.13 | 1.0 | | 1411 | -45 8630 | 158144 | 0.01 | | 1.0 | |
| 1333 | -45 8386 | 155509 | 0.64 | 0.48 | 4.0 | 2 | 1412 | -33 4421 | 158320 | 0.38 | 0.31 | 1.0 | 1 |
| 1334 | -44 8313 | 155605 | 0.55 | 0.35 | 5.0 | | 1413 | -42 7799 | 158323 | 0.20 | 0.20 | 1.0 | |
| 1336 | -33 4278 | 155754 | 0.23 | 0.18 | 0.0 | | 1414 | -31 4773 | 158563 | 0.22 | | 0.0 | |
| 1337 | -50 9930 | 155670 | 0.33 | 0.28 | 0.0 | 5 | 1415 | -30 4777 | 158618 | 0.48 | 0.38 | 3.0 | 1 |
| 1338 | -38 6750 | 155775 | 0.27 | 0.19 | 2.0 | | 1416 | -32 4573 | 158644 | 0.50 | 0.35 | 2.0 | |
| 1339 | -33 4282 | 155806 | | | 0.0 | | 1417 | -31 4787 | 158705 | 0.96 | 0.79 | 6.0 | 15 |
| 1341 | -45 8413 | 155756 | 0.80 | 0.64 | 4.0 | | 1420 | -29 4767 | 158902 | 0.46 | 0.74 | 4.0 | |
| 1342 | -40 7764 | | 0.92 | 0.70 | 4.0 | | 1421 | -45 8680 | 158864 | | | 1.0 | |
| 1344 | -32 4428 | 155851 | | | 1.0 | | 1422 | -46 8728 | 158906 | 0.08 | 0.04 | 1.0 | |
| 1345 | -33 4296 | 155889 | 0.29 | 0.24 | 1.0 | | 1425 | -30 4798 | 159090 | 0.42 | 0.27 | 2.0 | |
| 1346 | -42 7704 | 155873 | 0.94 | 0.79 | 2.0 | | 1426 | -38 6911 | 159073 | 0.52 | 0.39 | 4.0 | |
| 1348 | -42 7710 | 155913 | | | 1.0 | | 1427 | -41 8062 | 159110 | 0.21 | 0.21 | 1.0 | |
| 1349 | -32 4436 | 156004 | 0.26 | 0.13 | 0.0 | | 1428 | -32 4603 | | 0.34 | 0.24 | 0.0 | |
| 1350 | -44 8333 | 155985 | 0.46 | 0.32 | 5.0 | | 1431 | -32 4606 | | | | 1.0 | |
| 1351 | -35 6910 | 156041 | 0.87 | 0.67 | 4.0 | 1 | 1432 | -32 4616 | 159176 | 0.16 | -0.44 | 1.0 | |
| 1353 | -35 6915 | 156134 | 0.90 | 0.71 | 4.0 | | 1433 | -37 7287 | 159278 | 0.50 | 0.66 | 3.0 | |
| 1354 | -54 8439 | 156085 | 0.47 | 0.39 | 3.0 | | 1434 | -44 8634 | 159402 | 0.19 | 0.17 | 0.7 | |
| 1355 | -44 8343 | 156103 | 0.82 | 0.63 | 6.0 | | 1435 | -45 8715 | 159489 | | | 2.0 | AV(3) |
| 1356 | -35 6916 | 156154 | 0.84 | 0.38 | 3.0 | | 1436 | -35 6937 | 159573 | 0.53 | 0.48 | 2.0 | |
| 1357 | -27 5605 | 156212 | 0.80 | 0.57 | 3.5 | AV(2) | 1437 | -35 7064 | 159684 | | | 3.0 | |
| 1358 | -41 7933 | 156172 | | | 1.5 | AV(2) | 1440 | -46 8786 | 159792 | 0.40 | 0.32 | ? | 3 |
| 1359 | -35 6919 | 156201 | 0.91 | 0.68 | 2.7 | 1,AV(3) | 1442 | -35 7078 | | 0.83 | 0.54 | 4.0 | |
| 1360 | -38 6774 | | 1.07 | 0.87 | 6.0 | | 1443 | -33 4511 | 160065 | 1.20 | 1.00 | 6.0 | 2 |
| 1361 | -34 6799 | 156256 | 0.30 | 0.26 | 0.0 | 5 | 1445 | -33 4513 | 160095 | 0.27 | 0.25 | 1.0 | 2 |
| 1363 | -33 4336 | 156269 | 0.27 | 0.16 | 3.0 | | 1446 | -29 4826 | 160109 | 0.23 | 0.25 | 1.0 | |
| 1364 | -28 5602 | 156351 | 0.66 | 0.52 | 3.5 | | 1447 | -28 5752 | 160319 | | | 3.0 | |
| 1365 | -42 7720 | 156292 | 0.57 | 0.47 | 4.0 | | 1448 | -37 7377 | 160337 | 0.68 | 0.50 | 4.0 | 1 |
| 1366 | -32 4461 | 156325 | 0.31 | 0.20 | 1.0 | | 1449 | -23 6631 | 160430 | 0.58 | 0.46 | 3.0 | 1 |
| 1367 | -32 4462 | 156321 | 0.27 | 0.16 | 2.0 | | 1450 | -35 7128 | 160575 | 0.61 | 0.49 | 4.0 | |
| 1368 | -42 7719 | 156271 | 0.56 | 0.40 | 2.5 | AV(2) | 1453 | -38 7000 | 160812 | 0.40 | 0.40 | 2.5 | AV(2) |
| 1369 | -39 7328 | 156409 | | | 3.8 | AV(3) | 1454 | -35 7167 | 160872 | 0.46 | 0.39 | ? | 3 |
| 1370 | -30 4658 | 156465 | 0.31 | 0.19 | 2.0 | 1 | 1455 | -41 8189 | 160876 | 0.15 | | 1.0 | |
| 1371 | -37 7083 | 156468 | 0.41 | 0.16 | 3.0 | | 1456 | -22 6421 | | 0.70 | 0.48 | 3.0 | |
| 1374 | -45 8472 | 156575 | 0.49 | 0.40 | 1.0 | 15 | 1457 | -44 8726 | 160878 | 0.20 | 0.20 | 1.0 | 5 |
| 1376 | | 156779 | 0.41 | 0.40 | 1.0 | | 1458 | -34 7014 | 160974 | 0.63 | 0.54 | 2.0 | 1 |
| 1377 | -37 7104 | 156688 | 0.33 | 0.29 | 1.0 | | 1460 | -27 5738 | 161103 | | | 0.0 | 2 |
| 1378 | -45 8479 | 156662 | 0.43 | 0.32 | 3.0 | 1 | 1461 | -40 8057 | 161141 | 0.24 | 0.26 | 0.0 | |
| 1379 | -38 6782 | 156702 | | | 3.0 | | 1463 | -36 7566 | 161249 | 0.15 | 0.23 | 0.0 | |
| 1383 | -39 7346 | 156834 | 0.42 | 0.31 | 3.0 | | 1464 | -40 8077 | 161378 | 0.10 | 0.08 | 0.0 | |
| 1386 | -37 7121 | 157038 | 0.90 | 0.70 | 5.0 | | 1465 | -40 8084 | | -0.49 | 0.0 | 0.0 | |
| 1387 | -38 6800 | 157098 | 0.34 | 0.30 | 2.0 | AV(2) | 1467 | -42 7963 | | 0.26 | 0.22 | 2.0 | 1 |
| 1389 | -42 7745 | 157099 | | | 0.0 | | 1468 | -38 7043 | 161653 | 0.24 | 0.20 | 1.5 | 1,AV(2) |
| 1390 | -38 6803 | 157127 | 0.44 | 0.29 | 2.0 | | 1470 | -33 4618 | 161774 | | | 2.0 | |
| 1395 | -37 7163 | | 1.08 | 0.91 | 7.0 | | 1471 | -32 4896 | 161789 | 0.75 | 0.63 | 2.0 | 24 |
| 1396 | -41 7983 | 157519 | 0.20 | 0.19 | 1.0 | | 1472 | -38 7053 | 161807 | | | 1.0 | |
| 1397 | -42 7761 | 157572 | 0.57 | 0.51 | 0.0 | | 1473 | -31 4996 | 161839 | 0.60 | 0.43 | 4.0 | 2 |
| 1399 | -41 7991 | 157646 | 0.37 | 0.25 | 2.0 | | 1474 | -31 4999 | 161853 | 0.56 | 0.47 | 1.5 | AV(2) |
| 1400 | -34 6823 | 157693 | 0.64 | | 2.0 | | 1475 | -41 8282 | 161841 | -0.08 | | 0.0 | 5 |
| 1402 | -40 7831 | 157783 | 0.36 | 0.32 | 2.0 | | 1477 | -38 7079 | 162047 | 0.32 | 0.29 | 2.0 | |
| 1404 | -41 7999 | 157846 | 0.30 | 0.34 | 1.0 | | 1478 | -32 4913 | 162168 | 0.84 | 0.67 | 4.0 | |
| 1407 | -40 7843 | 157973 | 0.78 | 0.63 | 5.0 | 1 | 1480 | -38 7101 | 162289 | 0.26 | 0.23 | 0.0 | 4 |
| 1408 | -33 4411 | 158073 | 0.45 | 0.37 | 2.0 | | 1481 | -37 7572 | 162352 | | | 1.5 | AV(2) |
| 1409 | -32 4551 | 158155 | 0.66 | 0.44 | 2.0 | | 1482 | -38 7111 | 162356 | 0.26 | 0.11 | 1.0 | |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 1483 | -40 8181 | 162376 | 0.18 | 0.22 | 1.0 | |
| 1484 | -38 7116 | 162394 | 0.27 | 0.27 | 1.0 | |
| 1485 | -38 7121 | 162418 | 0.24 | 0.17 | 1.5 | |
| 1486 | -39 7683 | 162440 | 0.06 | -0.29 | 0.0 | |
| 1487 | -42 8040 | 162568 | | | 1.0 | |
| 1488 | -36 7738 | 162633 | | | 1.0 | 2 |
| 1491 | -29 4977 | 162856 | 0.32 | 0.30 | 2.0 | |
| 1492 | -29 4982 | | 0.52 | 0.46 | 4.0 | |
| 1494 | -33 4691 | 162910 | 0.39 | 0.34 | 2.0 | 2 |
| 1496 | -38 7174 | 163004 | 0.15 | 0.18 | 1.0 | |
| 1497 | -30 5033 | 163065 | 0.56 | 0.42 | 3.0 | 1 |
| 1498 | -32 4970 | 163181 | | | 4.5 | AV (2) |
| 1499 | -41 8402 | 163254 | 0.14 | 0.20 | 1.0 | 5 |
| 1500 | -30 5057 | 163338 | 0.55 | 0.41 | 2.0 | |
| 1503 | -32 4987 | 163430 | 0.19 | 0.21 | 0.0 | 5 |
| 1504 | -30 5071 | 163454 | | | 1.0 | |
| 1505 | -30 5080 | 163555 | 0.01 | | 0.0 | 5 |
| 1506 | -42 8122 | 163522 | 0.19 | 0.14 | 0.0 | 1 |
| 1507 | -28 6083 | 163685 | 0.11 | 0.17 | 1.0 | |
| 1508 | -31 5166 | 163667 | 0.69 | 0.51 | 4.0 | 1 |
| 1510 | -22 6501 | 163800 | | | 2.0 | |
| 1511 | -41 8451 | 163745 | -0.01 | | 1.0 | |
| 1512 | -36 7854 | 163758 | | | 1.0 | 2 |
| 1513 | -22 6507 | 163892 | 0.47 | 0.35 | 2.5 | AV (2) |
| 1514 | -33 4751 | 163868 | | | 1.0 | |
| 1515 | -33 4748 | 163899 | 0.41 | 0.30 | 3.0 | 1 |
| 1516 | -35 7619 | 163924 | 0.23 | 0.12 | 2.0 | |
| 1517 | -29 5107 | 163984 | 0.27 | 0.11 | 3.0 | |
| 1518 | -28 6127 | 164019 | 0.50 | 0.38 | 2.0 | |
| 1519 | -29 5117 | 164032 | 0.31 | 0.23 | 1.0 | |
| 1520 | -24 6092 | 164146 | 0.28 | 0.20 | 1.0 | |
| 1523 | -36 7924 | 164245 | 0.09 | | 0.0 | 5 |
| 1524 | -22 6543 | 164359 | 0.31 | 0.26 | 3.0 | 1 |
| 1525 | -35 7658 | 164320 | 0.09 | | 0.0 | 5 |
| 1526 | -23 6745 | 164384 | 0.22 | 0.13 | 2.0 | |
| 1527 | -22 6547 | 164402 | 0.24 | 0.16 | 1.0 | 15 |
| 1528 | -36 7936 | | | | ? | 4 |
| 1529N | -27 5985N | 164404N | | | 2.0 | |
| 1529S | -27 5985S | 164404S | | | 2.0 | |
| 1530 | -19 6393 | 164438 | 0.64 | 0.48 | 3.5 | AV (2) |
| 1531 | -40 8357 | 164340 | 0.14 | 0.11 | 1.0 | 1 |
| 1532 | -23 6758 | 164492 | 0.34 | 0.31 | 1.0 | |
| 1533 | -33 4795 | 164455 | 0.15 | 0.22 | 1.0 | |
| 1534 | -29 5179 | 164516 | 0.21 | 0.31 | 0.0 | 5 |
| 1536 | -29 5187 | 164606 | 0.16 | 0.21 | 1.0 | |
| 1537 | -22 6577 | 164637 | 0.25 | 0.21 | 1.0 | 15 |
| 1538 | -22 6587 | 164704 | 0.22 | 0.10 | 2.0 | |
| 1539 | -27 6046 | 164769 | 0.17 | 0.11 | 1.0 | |
| 1541 | -24 6146 | 164816 | 0.30 | 0.24 | 1.0 | |
| 1542 | -22 6613 | 164833 | 0.31 | 0.24 | 2.0 | 1 |
| 1543 | -31 5266 | 164798 | 0.33 | 0.29 | 2.0 | 5 |
| 1544 | -24 6157 | 164865 | 1.11 | 1.27 | 3.0 | 1 |
| 1545 | -24 6178 | 164933 | 0.39 | 0.27 | 2.0 | |
| 1546 | -24 6194 | 165016 | 0.26 | 0.21 | 1.0 | 1 |
| 1547 | -24 6201 | 165052 | | | 1.0 | 2 |
| 1548N | -36 7987N | 165063N | | | 0.0 | |
| 1548S | -36 7987S | 165063S | | | 0.0 | |
| 1549 | -23 6816 | 165132 | 0.38 | 0.30 | 2.0 | |
| 1550 | -26 6230 | 165225 | 0.25 | 0.26 | 2.0 | |
| 1551 | -29 5254 | 165207 | 0.13 | 0.11 | 0.0 | 2 |
| 1552 | -24 6208 | 165246 | 0.40 | 0.32 | 1.0 | |
| 1556 | -38 7379 | | 0.05 | 0.15 | 0.0 | |
| 1557 | -34 7600 | 165582 | 0.24 | 0.19 | 3.0 | |
| 1558 | -25 6344 | 165655 | 0.59 | 0.40 | 2.0 | |
| 1559 | -42 8317 | 165617 | 0.03 | | 0.0 | |
| 1560 | -21 6639 | 165784 | 0.86 | | 3.0 | 1 |
| 1562 | -22 6732 | 165812 | 0.25 | 0.20 | 2.0 | |
| 1563 | -36 8027 | 165793 | 0.20 | 0.14 | 1.0 | 1 |
| 1565 | -24 6247 | 165921 | 0.46 | 0.35 | 3.0 | |
| 1569 | -34 7625 | 165955 | 0.20 | 0.11 | 1.0 | |
| 1571 | -40 8489 | 166198 | -0.06 | | 0.0 | |
| 1574 | -32 5192 | 166345 | 0.05 | -0.11 | 1.0 | |
| 1576 | -19 6563 | 166569 | 0.64 | 0.50 | 5.0 | 1 |
| 1577 | -41 8618 | 166427 | -0.07 | | 0.0 | |
| 1579 | -39 7997 | 166453 | 0.05 | | 0.0 | |
| 1580 | | | 0.39 | 0.34 | ? | |
| 1581 | -19 6567 | 166628 | 0.73 | 0.58 | 5.0 | |
| 1582 | -28 6387 | 166612 | | | 0.0 | |
| 1586 | -22 6830 | 166852 | 0.23 | 0.57 | 2.0 | |
| 1588 | -36 8079 | 166832 | 0.07 | | 0.0 | |
| 1591 | -33 4963 | 167003 | 0.10 | 0.07 | 1.0 | |
| 1594 | -43 8519 | 167095 | 0.04 | | 0.0 | |
| 1595 | -20 6919 | 167263 | 0.33 | 0.25 | 3.0 | |
| 1596 | -41 8635 | 167235 | 0.03 | | 0.0 | |
| 1599 | -40 8515 | 167297 | 0.38 | | 1.0 | |
| 1601 | -30 5414 | 167402 | 0.24 | 0.16 | 1.0 | 12 |
| 1606 | -19 6741 | 167659 | | | 2.0 | |
| 1607 | -31 5475 | 167599 | 0.50 | | 1.0 | |
| 1610 | -34 7719 | 167647 | 0.09 | 0.13 | 0.0 | |
| 1612 | -33 5012 | 167686 | -0.01 | | 0.0 | 5 |
| 1614 | -19 6755 | 167815 | 0.44 | 0.32 | 2.0 | |
| 1615 | -29 5477 | 167775 | 0.09 | | 0.0 | |
| 1617 | -42 8359 | 167756 | 0.08 | 0.06 | 1.0 | 1 |
| 1618 | -34 7731 | 167846 | 0.02 | | 0.0 | |
| 1621 | -37 8074 | 168469 | 0.05 | | 0.0 | |
| 1623 | -30 5478 | 168785 | 0.28 | 0.12 | 1.0 | |
| 1624 | -27 6389 | 168941 | 0.34 | 0.27 | 2.0 | |
| 1626 | -30 5493 | 169100 | 0.22 | | 0.0 | |
| 1628 | -34 7817 | | 0.08 | | 1.0 | |
| 1629 | -31 5547 | 169425 | 0.17 | | 0.0 | |
| 1630 | -36 8244 | 169679 | 0.05 | | 0.0 | 5 |
| 1631 | -19 6835 | 169805 | | | 2.0 | |
| 1632 | -32 5385 | 169872 | 0.14 | | 1.0 | |
| 1633 | -25 6532 | 170235 | | | 1.0 | |
| 1635 | -30 5538 | 170638 | | | 1.0 | |
| 1636 | -19 6917 | 170835 | | | 3.5 | |
| 1637 | -24 6440 | 170978 | 0.23 | 0.24 | 1.0 | |
| 1639 | -22 7084 | 171348 | | | 2.0 | 4 |
| 1640 | | 171432 | 0.41 | 0.27 | 4.0 | |
| 1641 | -28 6618 | 171757 | | | 4.0 | 3 |

TABLE 2 (CONTINUED)

| HBG | CPD | HD | E(B–V) | E(U–B) | C | REMARKS |
|---|---|---|---|---|---|---|
| 1642 | -20 7112 | 172122 | 0.32 | 0.52 | 3.0 | 1 |
| 1643 | -22 7117 | 172158 | | | ? | 3 |
| 1645 | -22 7122 | 172256 | | | 3.5 | |
| 1647 | -32 5501 | 172535 | 0.15 | 0.28 | 0.0 | 2 |
| 1650 | -22 7151 | 172854 | 0.43 | 0.44 | 1.5 | |
| 1652 | -30 5678 | 173502 | 0.13 | 0.11 | 1.0 | 1 |
| 1653 | -31 5719 | 173770 | 0.09 | | 0.0 | |
| 1654 | -19 7102 | 174073 | 0.33 | 0.29 | 3.0 | |
| 1655 | -30 5729 | 174632 | 0.04 | 0.03 | 0.0 | |
| 1659 | -19 7198 | 175253 | 0.07 | | 0.0 | |
| 1660 | -19 7221 | 175754 | | | 2.0 | |

## NOTES TO TABLE 2

The columns contain the following information:

[1] HBG Number (running number in the Heidelberg objective-prism survey, Klare and Szeidl, 1966).

[2] CPD Number, (Cape Photographic Durchmusterung)

[3] HD Number.

[4] and [5] Colour excess E(B–V) and E(U–B). These were calculated using the UBV photometry by Klare and Neckel (1977), the spectral classification by Garrison, Hiltner and Schild (1977) and the intrinsic colors by Johnson (1963).

[6] The Classification, C, for the λ4430 band. A question mark means that the band was not classified due to existence of many stellar lines or to bad conditions of the spectrum (see text).

[7] Remarks:

1 OII λ4415-17 line present in the spectrum
2 poor guiding
3 very poor guiding
4 underexposed
5 overexposed
AV( ) the class given is the average of several spectra. The number of spectra used is between the parentheses.

were chosen. Those spectra were scanned, normalized and traced with the DDO PDS microdensitometer. For the normalization, two continuum points were defined, λ4400 and λ4460. Once the spectra were normalized, the equivalent widths were measured with a planimeter.

The tight relationship between the class (C) and the equivalent widths is shown in Figure 1. The two lines represent the two correlation lines;

$$C = 1.76\ W\ (A) - 1.35, \qquad (1)$$

$$W\ (A) = 0.40\ C + 1.22. \qquad (2)$$

These lines determine the two extremes of a family of lines whose slope is different, depending on how much the class or the equivalent width contribute to the dispersion due to intrinsic error in the determination of each of them. We considered that 50% due to each of them is a good compromise, and in this case the average line of equation (3) represents well the calibration between the class and the equivalent width.

$$W\ (A) = 0.47\ C + 1.03. \qquad (3)$$

The reason why this line does not pass through the origin might be the possible presence of stellar lines across the band (Blades and Somerville 1977; Blades and Madore 1979), which contribute to the equivalent width measurement and may cause a misclassification. Obviously the existence and strength of the stellar lines depends on the spectral type of the star. Because this sample of stars is well mixed in spectral types O and B, as well as all luminosity classes, part of the dispersion in Figure 1 could be due to this effect.

Because of the very good correlation between the class and the equivalent width, we are confident that the visual classes will work as well as the equivalent widths and the former is a much more efficient method.

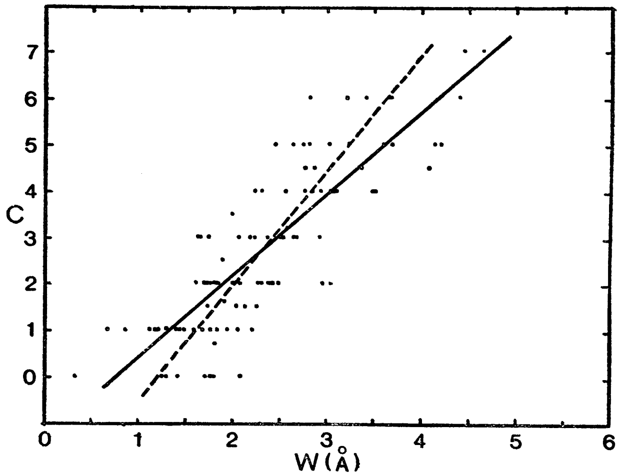


Fig. 1. Calibration between Class(C) and Equivalent Width (W). The small scatter illustrates the equivalence of both methods of strength estimation for the λ4430 band.

A statistical study for these stars based on the classification is in preparation.

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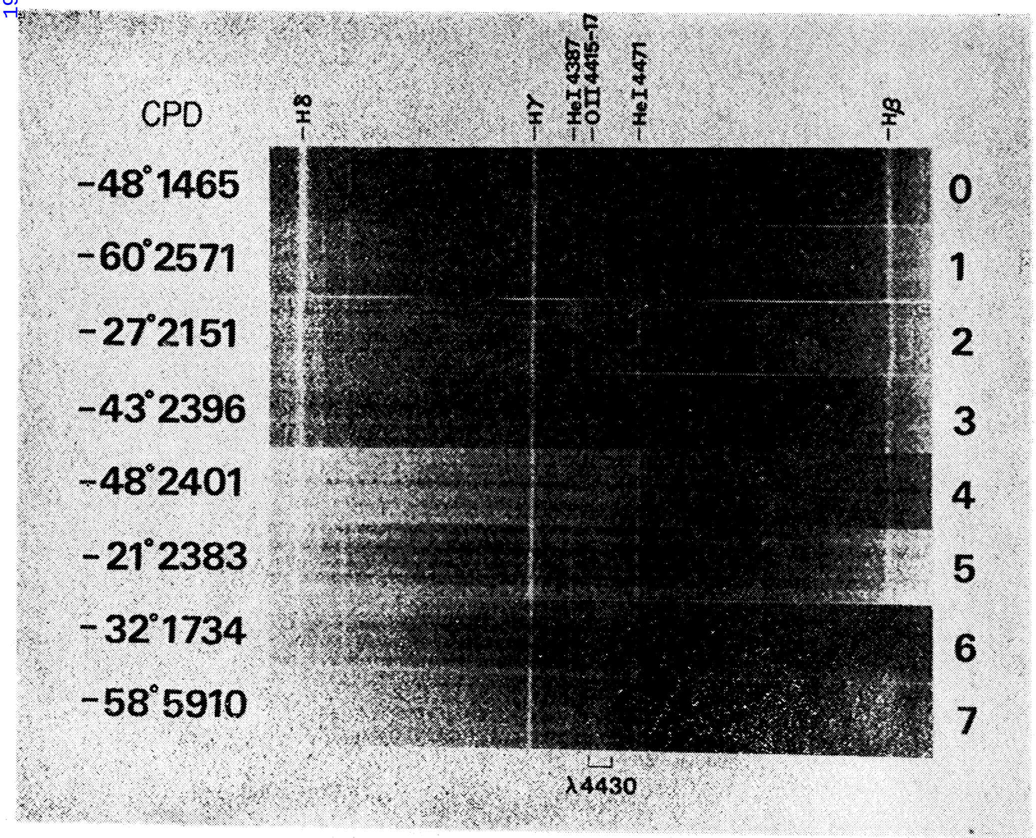
# SUBJECT INDEX

**Stars, Visual Multiples**



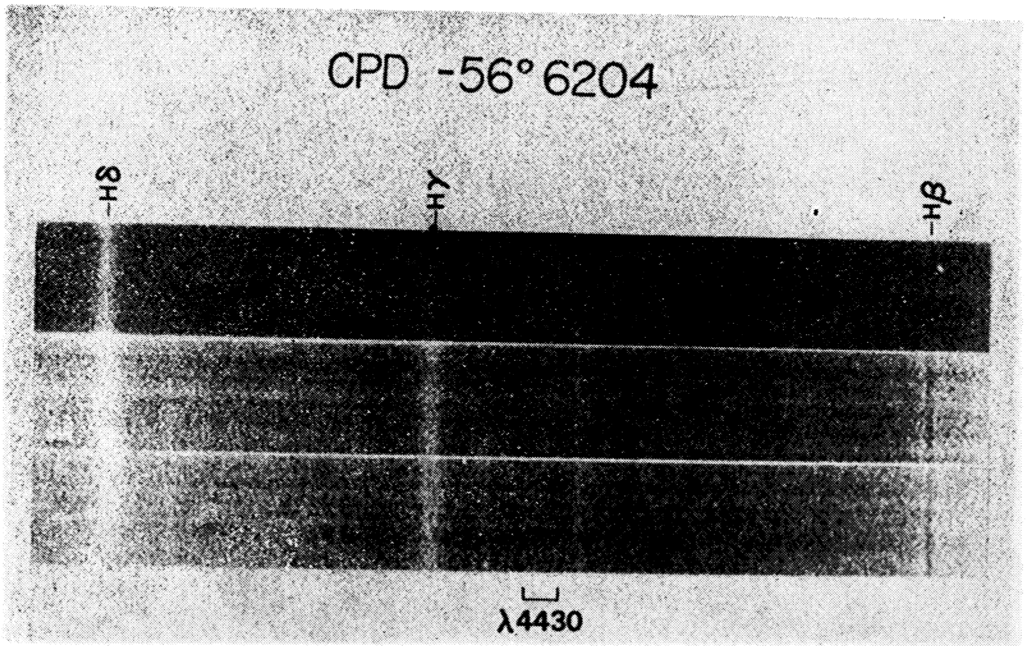




Plate 7*a*. The most frequently used standard stars.
Plate 7*b*. An example of the effect of the exposure time on the intensity of the λ4430 band, for CPD–56°6204.

ARELLANO-FERRO AND GARRISON (SEE PAGE 351)