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A PHOTOMETRIC STUDY OF THE ORION OB 1 ASSOCIATION. I. OBSERVATIONAL DATA

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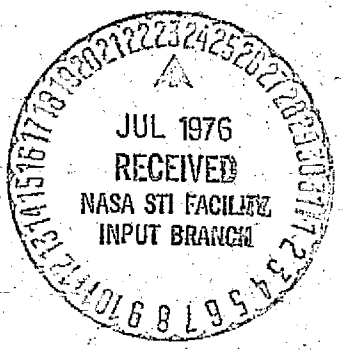

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A PHOTOMETRIC STUDY OF THE ORION OB 1 ASSOCIATION. I. OBSERVATIONAL DATA

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ABSTRACT

An extensive catalogue of observational data is presented for stars in the region of the young stellar association Orion OB 1. In addition to new photoelectric observations obtained on the *uvbyβ* and *UBV* systems, we have compiled previous photoelectric and spectroscopic data for all stars on our observing program and for several bright members of the association having available photometric indices. Mean weighted values have been computed for the *uvbyβ* and *UBV* data and are tabulated in summary tables which include all references for individual values. These tables are expected to be reasonably complete for association members earlier than spectral type A0.

From an analysis of currently available proper-motion, radial-velocity, and photometric data, we derive membership criteria and summarize qualitative membership probabilities for the 526 stars on our final program. A set of charts is included for assistance in identification of the program stars in all regions of the association.

Subject headings: photometry--OB associations, stellar

I. INTRODUCTION

The constellation of Orion is principally defined by one of the brightest and most populated concentrations of early-type stars in the vicinity of the Sun. The location of this "stellar association" well below the Galactic plane ($\langle b \rangle = -16°$) with its subsequent low foreground absorption, and its high numbers of O- and B-type stars make Orion OB 1 one of the optimal groups in which to study: (*i*) the absolute magnitudes and general characteristics of early-type stars; (*ii*) the interaction of hot stars, gas, and dust; (*iii*) the properties of young stars nearing the final phases of their pre-main-sequence (PMS) evolution; (*iv*) the absolute magnitudes and intrinsic properties of massive supergiant stars which are near the core-hydrogen exhaustion transition to post-main-sequence evolutionary phases; and (*v*) the effects of nebular and possibly circumstellar dust and/or gas environments having various dust-grain sizes and compositions.

As reviewed by Blaauw (1964), the term "stellar association" was first used by Ambartsumian (1947), who described these aggregates as very young concentrations of stars which have not yet dispersed from their locations of formation. Unlike star clusters, the associations were hypothesized not to be gravitationally bound, so that in addition to their gradual dissipation from differential galactic rotation, they would be eventually dispersed due to

expansion. Observational evidence for expansion was subsequently found for the association Perseus OB 2 by Blaauw (1952) and has since been tentatively determined for several other associations, including the northern part of Orion OB 1 (Lesh 1968*a*).

The division of a single association into subgroups having different evolutionary characteristics or ages (Blaauw 1964; Glaspey 1971) has resulted in the following characteristics: (*i*) ages $\sim 15 \times 10^6$ years for the oldest subgroups; (*ii*) subgroup separations approximating individual sizes of the subgroups themselves; (*iii*) subgroup "streaming" in directions roughly parallel to the plane of the Galaxy; and (*iv*) approximately equal numbers of stars in various subsystems of the same association.

The present investigation was initiated in order to study the Orion OB 1 association as a whole using a uniform body of data on a photometric system known to produce accurate intrinsic parameters, such as absolute magnitudes and reddenings, for individual stars. While the *uvby* system of Strömgren and Hβ system of Crawford have been applied to other associations (Scorpius OB 1--Crawford, Barnes, Hill and Perry 1971; Cepheus OB 3--Crawford and Barnes 1970*a*), the smaller distance of the Orion association makes it possible to probe to fainter magnitudes with moderate size telescopes, thereby allowing studies of heavily reddened stars embedded in nebulosity, PMS stars, etc. to be carried out. Our goals were principally

to improve the overall knowledge with which the distances and reddenings of stars in the Orion association are known, in order that detailed comparative analyses of individual subgroups can be made. We have also investigated the performance of the photometric systems on the highly reddened and PMS stars, etc., many of which are peculiar with respect to the normal early-type stars used to calibrate the systems.

In this, the first of a series of papers, we present the observational data upon which subsequent analyses will be based. Paper II will discuss the photometric analysis (reduction techniques, My and reddening determinations, etc.) and possible correlations with stellar axial rotation (cf. Warren 1976), peculiar stars, effects on the photometry caused by abnormal energy distributions due to anomalous "interstellar" extinction, and various emission mechanisms associated with the PMS character of association members in the vicinity of the Orion Nebula, which probably contribute to infrared and ultraviolet excesses and polarization. Paper III will make the comparative analysis of the individual subgroups of the association and discuss their spatial distribution, ages, etc. In the following sections we specifically discuss: (*i*) the identification and nomenclature for all stars on our program; (*ii*) *UBV* and spectral-classification information; (*iii*) the newly acquired *uvbyβ* photometry and associated observational errors; and (*iv*) membership based upon proper motions and other criteria.

In the appendices we present mean values for new *UBV* observations carried out at CTIO during 1968 and we summarize all available *uvbyβ* data for the 526 program stars. Our individual photometric measures will be deposited with the National Space Science Data Center at Goddard Space Flight Center and the Centre de Données Stellaires, Strasbourg, for future use in studies of variables in the Orion region.

II. OBSERVATIONAL PROGRAM

A computer search[1] of the *Henry Draper Catalogue* for all O and B stars in the region $\alpha = 5^h$ to 6^h (1900) $\delta = +6°$ to $-8°$ served as the preliminary list of program stars. This list was then expanded by incorporation of stars from the observing programs of Sharpless (1952, 1962), Parenago (1954), and Hardie, Heiser and Tolbert (1964). Additional program stars were added from the lists of Johnson and Borgman (1963), H. M. Johnson (1965), Crawford and Barnes (1966), Morgan and Lodén (1966), Lee (1968), and M. F. Walker (1969). The final program consists of 526 stars which are identified in Figures 1-5.

[1]Kindly made by B. L. Weymann of Kitt Peak National Observatory (KPNO).

A cross-identification list for the observing program is presented in Table 1. The column headings are self-explanatory except for the following: Column 1 contains the

identification numbers used on the charts in Figures 1-5; the stars are numbered in order of increasing right ascension and decreasing declination. Columns 6, 7 and 8 contain identification numbers from the catalogues of Parenago (1954), Brun (1935), and Jeffers, van den Bos and Greeby (1963), respectively. The final three columns contain the subgroup identification (see schematic diagram in Fig. 6), figure number of the chart on which the star is identified, and a number reference if a note is included at the end of the table. The subgroups designated by Blaauw (1964) are used in this investigation except that Orion 1b, c and d have been further subdivided as indicated in Figure 6. The b subgroup was divided because of the findings of Hardie, Heiser and Tolbert (1964) and of Crawford and Barnes (1966) that the Belt stars increase in distance from west to east. The c subgroup has been left intact in the outer regions away from the Sword but has been subdivided along the lines of Morgan and Lodén (1966) and M. F. Walker (1969) near the region of the Orion Nebula. The d subgroup has been divided into the outer nebula (d1) and inner nebula (d) regions in the hope that an accurate distance modulus will be determinable for d1 which can then be applied to the central nebula.

III. *UBV* PHOTOMETRY AND MK SPECTRAL TYPES

After a fairly thorough search of the literature plus references listed in the *U.S. Naval Observatory Photoelectric Catalogue* (Blanco *et al.* 1968) and MK spectral-type catalogue (Jaschek, Conde and Sierra 1964), the *UBV*/spectral-type data

presented in Table 2 were compiled. All *UBV* and most MK data are taken from the original sources since the numbers of measures of each observer were needed to compute the mean weighted *UBV* values listed in the table. New CTIO *UBV* observations reported in Appendix A and obtained in 1968 for stars in the Orion-Nebula complex are included in these averages. After evaluation of all data, systematic *U-B* corrections of $-0^m.02$, $-0^m.02$, $-0^m.04$, $-0^m.04$, and $-0^m.03$ were added to data from references C, D, E, G, and Q, respectively, in order to bring them into accord with the means of other observers. Since the *UBV* data have been used in conjunction with the four-color and β photometry in subsequent analyses, they are reported to thousandths of a magnitude in cases where multiple observations of different observers have been averaged. For 240 stars having multiple external observations and not showing obvious variability, standard errors were found to be $0^m.010 \pm 0^m.009$, $0^m.008 \pm 0^m.007$, $0^m.010 \pm 0^m.009$ in *V*, *B-V* and *U-B*, respectively. (The errors for stars brighter than magnitude 8 are actually somewhat smaller than these values since we have included here the fainter stars, many of which are probably small amplitude variables.)

Following the *V* magnitude in column 2 of Table 2, one of three symbols is found: (*i*) a blank indicates that the datum is a mean of measurements on the international broadband system; (*ii*) a Y indicates that as no *UBV* photometry is currently available, transformed *y* magnitudes are given; and (*iii*) an

* signifies that *V* and *y* magnitudes have been averaged. In the latter two cases, reference codes in column 6 are enclosed by parentheses, signifying that they refer to the reference list following the *uvbyβ* summary Table 17 in Appendix C; otherwise, the single character codes refer to the sources of the *UBV* photometry listed immediately following Table 2. Column 5 of Table 2 gives the total number of observations used in forming the mean *UBV* values for each star. The references for the spectral types reported in column 7 are given by the codes listed in column 8, e.g. star 26 has been classified B3 V by C and Q, B3 Vn by D and B3 Vnn by $. The spectral-type references and extensive notes also follow the table.

IV. THE *uvbyβ* PHOTOMETRIC OBSERVATIONS

a) uvby photometry

The new four-color observations reported here were made at KPNO and CTIO using various telescopes and data acquisition systems. The KPNO data were taken with the Nos. 1- and 2-91-cm telescopes during February and November 1972, using a four-channel spectrometer designed by Strömgren for simultaneous *uvby* observations. [Descriptions of this instrument have been given by Strömgren (1973) and Warren (1973).] In addition to the above observations, about 30 faint stars were kindly observed by Mr. J. C. Golson of KPNO in December 1972 using the same instrument. For most observations away from the nebula a 20-arcsec diaphragm was used; in

regions of nebulosity near NGC 1976 and for a few close visual binaries in other areas a diaphragm of 8.6 arcsec was employed. For all stars in regions of known nebulosity, sky measures were made on four sides and averaged. In general, sky readings were found to be reasonably uniform within the nebula, but around the periphery they were noticeably higher toward the nebula in most cases. The agreement of transformed *y* magnitudes with the *V* data of previous observers (to be discussed below) indicates no significant systematic errors due to sky or nebular contamination, as is also the case with the colors.

The CTIO observations were made during November and December 1971 and January and February 1972 using the 91-cm and 61-cm (Lowell-Tololo) telescopes and conventional single-channel equipment with refrigerated 1P21 photomultipliers. CTIO filter set number 1 was used for the November and December observations, while set number 3 was used in January and February. Both pulse counting and charge integration techniques were used. For stars measured by M. F. Walker (1969), sky measures were made in the directions recommended by him.

Atmospheric extinction was individually determined for a number of nights during all runs. The KPNO coefficients were found to compare favorably with the long-period KPNO means found by Lockwood and Hartmann (1970) for the period 1966-1969, hence these means were adopted for all final reductions of KPNO data. The CTIO reductions were made using

individual means for the two observing runs, the means being formed from extinction measures made on each night. All mean extinction coefficients used are listed in Table 3, where the terminology is that of Crawford and Barnes (1970*b*).

Observations of the program stars were transformed to the standard system of Crawford and Barnes (1970*b*) by observing a large number of standard stars from their list on each night. In keeping with the policy discussed by Lindemann and Hauck (1973) for making the cataloging of observations and the formation of homogeneous means easier, all four-color and β standard observations made for this program are listed in Appendix B. Inspection of the standard-star data shows that the mean differences and standard deviations for the CTIO observations compare very well with those from KPNO, even though most of the latter measures were made simultaneously with a multichannel spectrometer using rectangular bandpasses, while the CTIO observations were made sequentially with interference filters in the conventional manner.

The accuracy of the transformation from y to V magnitudes via the equation $V = y + A + B(b-y)$ has been shown to be very good (Warren 1973), hence transformed magnitudes have been determined for all program stars observed on photometric nights.[2] In cases where the stars have no previous *UBV*

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[2]Only photometric nights were used for the CTIO (single-channel) observations, while the availability of the

multi-channel spectrometer at KPNO allowed color measurements to be made on non-photometric nights also.

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data, these transformed magnitudes have been used in the analysis; in some cases where program stars have previously measured V magnitudes, weighted means have been computed by combining the V and transformed y magnitudes (see § III, Table 2). The mean errors, as determined from the internal consistency of the data, after eliminating obvious variables, are given in Table 4, where the row labeled KPNO refers to the combination of all northern-hemisphere observations. The agreement between the errors in the northern- and southern-hemisphere data is seen to be very good.

In Table 5 we compare the transformed y magnitudes for various observers whose four-color data are used in computing the final mean indices reported in Table 17. The difference is found for each star by calculating the quantity $[V-V(y)]$ using the mean V values from the *UBV* data of Table 2. This comparison is made to ensure that we are justified in combining the V and $V(y)$ data for that table and for use in subsequent analyses.

b) The Hβ photometry

Most of the northern-hemisphere β observations were made at KPNO with a two-channel photometer on both 91-cm telescopes using pulse counting techniques and observational procedures (sky subtraction, etc.) identical to those of the

four-color measures. The sky measures were quite uniform within the nebula but for many stars around its periphery were noticeably higher toward the nebula, especially in the narrow filter. Under such circumstances it can only be hoped that the averages represent appropriate values for the stars concerned. For most observations a diaphragm size of 16.8 arcsec was used, while for stars within NGC 1976 a 7.9-arcsec diaphragm was substituted. A few additional observations were kindly obtained on the 91-cm telescope at McDonald Observatory by Mr. Leif Andersson during a January 1973 observing run and by Mr. J. C. Golson at KPNO in December 1973. In all cases various KPNO filter sets were employed and transformation slopes determined on individual nights using standard stars from the list of Crawford and Mander (1966).[3] The northern-hemisphere standard-star observations

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[3]Recently, Kilkenny (1975) has discovered non-linearities in Hβ transformations for filters not matching the standard set closely enough. The majority of the KPNO β observations were made with KPNO filters No. 493 (narrow) and No. 494 (wide). These filters have peak wavelengths and half-widths of 4858 Å, 29 Å and 4861 Å, 175 Å, respectively, and match the No. 1 standard set, as given by Crawford and Mander (1966), closely enough so that transformation curvature is not a problem here.

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are presented in Table 15, Appendix B.

The southern-hemisphere *uvby* and β observations were made concurrently in order to minimize effects of intrinsic stellar variability. When working in an area such as Orion where many of the program stars are variable, this procedure is preferable because the measures of both systems are used together in the analysis of the observations. The CTIO standard-star observations are presented in Table 16, Appendix B.

Table 6 presents a comparison between the new KPNO data and all other *uvbyβ* data for which a sufficient number of stars in common have been observed to make the comparison meaningful. The mean differences are in the sense (X-KPNO). The observer codes are those used in Table 17. The observations coded C, J and D were all made by Crawford and his associates and are combined here in order to provide a statistically meaningful sample. Although the CTIO β observations appear to show a small systematic difference with respect to the KPNO β observations, it was decided that the mean difference does not justify application of a correction factor.

The new *uvbyβ* observations made for the present program are tabulated in Table 7.[4] The column labeled *V* gives the transformed magnitudes as measured with the *y* filter (on photometric nights only).

[4] Previously unpublished observations made by Crawford and Barnes of 27 stars (code J in Table 17) are included here as new observations with their permission.

The final four-color and β data used in this study are compiled in Table 17 (Appendix C). The mean values have been determined by combining our new observations with the previously published data listed in the table, and weighting by numbers of observations reported.

V. MEMBERSHIP

In this section we present an analysis of membership for the program stars in or near the Orion OB 1 association, based on proper motions and radial velocities compiled from various sources, and on distance moduli obtained from the *uvby*β photometry of the present investigation. Although these criteria often do not provide definite conclusions concerning membership, due mainly to uncertainties and scatter in the proper-motion data, the membership table constructed by combining the above parameters has been found useful during analyses of the individual subgroups (Paper III), where a few early- and many late-type stars have been omitted from calculations of mean subgroup distances because of their low membership probabilities.

Following brief discussions of the membership criteria considered, we summarize the separate evaluations in a comprehensive table at the end of the section.

a) Proper Motions

Centennial proper motions compiled for the Orion 1 program stars from a variety of sources are given in Table 8.

Data for μ_α are given in seconds of time; those for μ_δ are in seconds of arc. Under the columns labeled "S" references to the sources of the data listed at the end of the table are given. Due to the considerable external scatter in proper motions for most stars and the necessity of assigning different weights, it was decided not to form means for the present qualitative evaluation. In most cases these proper motions have been presented by the authors on the FK4 system; in a few cases we have transformed the data to FK4 according to the corrections given by Fricke and Kopff (1963) (for FK3); Brosche, Nowacki and Strobel (1964) (for GC and N30); and/or from corrections given by the source author(s). The only sources not so transformed are the large programs of Parenago and of Ahundova, for several reasons: (*i*) no previous corrections have been determined; (*ii*) not enough common stars exist between these catalogues and those found to be most closely on the FK4 system [N30 (Morgan 1952) and Lesh (1968*b*)]; and (*iii*) as a result of a comparison between the Russian catalogues and that of Lesh, as discussed below. Small corrections for changes in Newcomb's precessional constants, as discussed by Fricke (1971, 1972) have not been applied because of the low accuracy of most of the proper motions discussed here.

A comparison of proper motions among sources containing at least six common stars is presented in Table 9. The results show several interesting characteristics:

1. The first three sources agree well, as expected; but while the mean differences between these sources and the SAO catalog (source 4) are excellent, large scatter exists among the proper motions in the latter source. This scatter clearly reflects the presence of large individual errors in the SAO source catalogues, mainly the GC, as discussed previously in the literature. This is also the case for the AGK3 wherein the accuracy for faint stars is quite good while large deviations occur for brighter stars--possibly a result of the photographic determinations.

2. While a large systematic difference and much scatter are present between sources 3 (Lesh) and 7 (Parenago) in μ_δ, the systematic difference almost disappears for source 8, which is an improvement of motions by Parenago and other authors, reduced to FK4. In the μ_δ comparison of sources 7 and 8, however, the scatter remains large but there is no mean deviation, indicating that a reduction of Parenago's motions to FK4 will probably not decrease the scatter appreciably. Similar conclusions hold for Ahundova's results (source C), although the deviations are not as pronounced. In all cases of comparison of these catalogues with SAO, the very large scatter persists. The SAO motions cannot reliably be used to determine membership.

3. The McCormick catalogue (source 6) also displays a large systematic difference and much scatter in μ_δ. These motions have been corrected to FK3 using values given in the

catalogue, and thence to FK4. Since most stars in the McCormick survey are faint, the deviations cannot, as with the AGK3, be attributed directly to the photographic method.

For most stars on the program having motions from more than one source, it is found that, due to disagreement among the results, membership cannot be ascertained; in fact, although there are only 48 program stars for which no proper motions could be found, most of the data available appear sufficiently unreliable that it was decided to evaluate them qualitatively only and to use a membership coding system indicative of the disagreement.

Reliable proper motions from sources 1-3 were compiled for stars of all subgroups which are fairly well-established members of the association according to previous studies, their radial velocities, and their distance moduli derived from the present *uvbyβ* photometry. After finding no significant differences among the mean motions for individual subgroups, all data have been combined to yield the mean centennial motions $\langle\mu_\alpha\rangle = -0^s.03 \pm 0^s.03$, $\langle\mu_\delta\rangle = -0''.1 \pm 0''.5$ (σ, 54 stars). These values check precisely with the mean-motion vector found by Lesh (1968*a*) from all Orion stars on her original proper-motion program. The criteria formulated from the above means for the codes used in the membership table are listed in Table 10.

b) Radial Velocities

Radial velocities have been compiled mostly from the bibliographical catalogue of Abt and Biggs (1972), additional data being obtained from Crampton and Byl (1971); Abt, Levy and Gandet (1972); and Smith (1972). Mean weighted velocities have been calculated for the stars listed by Abt and Biggs using the numbers of plates reported. This procedure is considered to be sufficiently accurate for membership considerations but, as stated by Abt and Biggs, is *not* recommended for detailed radial-velocity studies since no observatory corrections are included. An analysis of individual subgroups reveals insignificant differences in the mean velocities, hence all data for well-established members have been combined to yield a mean value for the association of +23.0 ± 8.1 km s^{-1} (110 stars).[5]

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[5]We have omitted the more uncertain values of Smith (1972). The stars in subgroup c3 (near the nebula) have also been omitted because they tend to have systematically higher velocities than do stars in all other subgroups. The assignment of one-half weight to variable-velocity stars has been found to alter the mean insignificantly, hence all stars were given equal weight in determining the means.

The membership criteria for radial velocities are outlined in Table 10.

c) Distance Moduli

Membership criteria for distance must be considered separately for different subgroups because of the significant variation in this quantity within the association. Furthermore, as discussed by Lesh (1968*a*) with regard to the northern part of the association (subgroups 1a and 1b), members of one subgroup may be seen superposed upon another. In the present study, stars which are either in front of or behind the compact c1-4 groupings actually belong to the (spherical?) subsystem surrounding the nebula which we call subgroup c. Considering that this is probably the case for only a few stars and that even for these the differences are not extremely large, we have computed mean distance moduli, <dm>, on the basis of the plane geometrical boundaries only.

Following the procedure used by G. A. H. Walker (1965), Perry and Hill (1969), and Glaspey (1971, 1972), the determination of distance-modulus criteria for individual subgroups has been accomplished using V_0, M_V diagrams.[6] These diagrams

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[6]The individual values of V_0 and M_V will be presented in Paper III, while their determination will be discussed in Paper II; duplicity corrections have been applied to the values used here.

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are presented in Figures 7-13. The stars in subgroups c1-4

and d1 have been combined on a single diagram because the distance moduli to these groups agree very well and because the individual groups do not contain enough stars to make separate diagrams worthwhile.

Although all stars having V_0 and M_V data are plotted on the diagrams (with the exception of a few F stars in subgroup d1 which are beyond the range of Fig. 12 and whose absolute magnitudes are affected by photometric peculiarities), the dashed lines were determined after plotting only the B-type stars since these are apparently the least affected by peculiarities in the photometric indices and are the most well-accepted association members. Since the $\pm 3\sigma$ limits from the mean distances derived for presumed members can be expected to contain over 99% of all members, we use these limits as the outer membership boundaries.

In summary, the distance-modulus codes to be used below in Table 11 are the following:

a star is located within the dashed boundary lines in the appropriate V_0, M_V diagram;

b star is located outside the dashed boundaries but within the 3σ limits;

c star is outside the 3σ limits.

The mean distance moduli (<dm>) shown in Table 10 are *preliminary* values found for membership evaluation only. Final mean distances to the individual subgroups will be derived in Paper III, where all stars are considered individually and some are omitted because of peculiarities.

d) Summary of Membership Results

Table 11 presents the membership as compiled according to the above guidelines (particularly Table 10 and § V*c*) for proper motion (μ), radial velocity (ρ) and distance (d).[7]

[7]Although we do not formulate specific photometric criteria for membership, as did, e.g. Gutiérrez-Moreno and Moreno (1968) in their study of the Scorpius-Centaurus association, the photometric diagrams will be considered individually in the third paper of this series, where the possibility of eliminating additional non-members on the basis of their locations in these diagrams will be considered.

It is clear from the large percentage of proper-motion codes b, d and e that a new study of the Orion 1 region using modern measuring techniques would be extremely valuable.[8] Radial-

[8]A recent proper-motion study of the Orion-Nebula Cluster has been carried out by Fallon (1975) using the plate-overlap reduction method of Eichhorn (1963). The results indicate a contraction of the cluster stars, in agreement with earlier studies of Vaerewyck and Beardsley (1973) and Cannell and Ianna (1974), but contrary to the expansion found by others (e.g. Strand 1958). An "overlap" study of the remaining subgroups of the association would be extremely useful for comparing their motions relative to one another and to the whole group. [For further review see Fallon (1975) and Warren (1975, Chapter V).]

velocity data are also in short supply, with only 143 of the 526 program stars having been measured to date. Alleviation of the lack of extensive, reliable positional and spectroscopic data for the Orion OB 1 stars would seem a goal worthy of careful attention in the near future.

VI. SUMMARY

In the first of a series of papers concerning the structure of the Orion OB 1 association, we have compiled the data necessary for a full analysis of *uvby*β photometry for 526 stars. Five tables contain the most essential information: Table 1 is a cross-identification table containing all the stars of this program; Table 2 is a summary of available *UBV* photometry and MK spectral classifications; Table 7 contains the mean values of the new KPNO and CTIO *uvby* photometry for 492 stars and β photometry for 433 stars. Table 11 summarizes the results of a membership analysis based upon proper-motion, radial-velocity and distance-modulus arguments; and Table 17 presents a compilation of all available *uvby*β photometry for the 526 program stars.

Additional results described in this paper concern the quality of the new photometric data and comparisons with previous investigations, as well as the presentation in Appendix A of new *UBV* photometry for 106 stars in the Orion-Nebula region.

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TABLE 1. CROSS-IDENTIFICATION AND POSITIONAL DATA

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
1	32686	1646		-3 998				4 59.9	-3 10.	5 03.7	-03 04	A	1	
2	32867			+2 860				5 1.2	2 32.	5 05.1	+02 38	A	2	
3	32884			-3 1010				5 1.3	-3 37.	5 05.0	-03 31	A	1	
4	293815		NGC 1788	-3 1013				5 1.9	-3 27.	5 05.6	-03 21	A	1	
5	33023			-3 1014				5 2.2	-3 38.	5 05.9	-03 32	A	1	
6	33038			+2 868				5 2.4	2 20.	5 06.3	+02 26	A	2	
7	33056			-3 1017				5 2.5	-3 27.	5 06.2	-03 21	A	1	
8	33647	1690		+0 974			131-41AB	5 6.5	0 23.	5 10.4	+00 29	A	2	
9	33765			+4 864				5 7.4	4 40.	5 11.4	+04 45	A	2	
10	33900			+4 868				5 8.3	4 6.	5 12.3	+04 11	A	2	
11	34098			+4 879				5 9.8	4 48.	5 13.8	+04 53	A	2	
12	34179			-0 892				5 10.3	-0 3.	5 14.1	+00 02	A	2	
13	34307			-1 841			135-38AB	5 11.3	-1 45.	5 15.1	-01 40	A	1	
14	34280			-3 1051			135-29AB	5 11.3	-3 36.	5 15.0	-03 31	A	1	
15	34317	1724		+1 957				5 11.5	1 50.	5 15.4	+01 55	A	2	
16	34510			+5 877				5 12.9	5 13.	5 16.9	+05 18	A	2	
17	34511			-0 913				5 12.9	-0 9.	5 16.7	-00 04	A	2	
18	34748	1748		-1 859				5 14.5	-1 31.	5 18.3	-01 26	A	1	
19	34929			+4 905				5 15.7	4 22.	5 19.7	+04 27	A	2	
20	34959	1761		+3 857				5 16.0	3 54.	5 20.0	+03 59	A	2	
21	34989	1763		+8 933				5 16.3	8 19.	5 20.4	+08 24			5
22	35008			-1 872				5 16.4	-1 39.	5 20.2	-01 34	A	1	
23	35007	1764		-0 929			139-36A	5 16.5	-0 31.	5 20.3	-00 26	A	2	
24	35039	1765	22 ORI	-0 930				5 16.7	-0 28.	5 20.5	-00 24	A	2	
25	35079			-3 1075				5 16.9	-3 3.	5 20.7	-02 59	A	1	
26	35148		23 ORI	+3 872			140-07B	5 17.6	3 28.	5 21.5	+03 32	A	2	
27	35149	1770	23 ORI	+3 871			140-07A	5 17.6	3 27.	5 21.5	+03 31	A	2	
28	35135			-0 933			140-08AB	5 17.6	0 3.	5 21.4	+00 07	A	2	
29	35177			+1 991				5 17.8	1 36.	5 21.7	+01 40	A	2	
30	35194			+0 1033				5 17.8	0 21.	5 21.7	+00 25	A	2	
31	35203			+0 1036			A	5 18.0	1 3.	5 21.9	+01 07	A	2	1
32	35258			+0 1040				5 18.3	0 34.	5 22.2	+00 38	A	2	
33	35298			+1 996				5 18.6	1 60.	5 22.5	+02 04	A	2	
34	35299	1781		-0 936				5 18.6	-0 15.	5 22.4	-00 11	A	2	
35	35305			+0 1041				5 18.7	0 46.	5 22.6	+00 50	A	2	
36	35407	1786		+2 947				5 19.4	2 16.	5 23.3	+02 20	A	2	
37	35411	1788	ETA ORI	-2 1235			141-16AB	5 19.4	-2 29.	5 23.2	-02 25	A	1	
38	35439	1789	25 ORI	+1 1005				5 19.5	1 45.	5 23.4	+01 49	A	2	
39	35454			+0 1046				5 19.6	0 41.	5 23.5	+00 45	A	2	
40	35456			-2 1237			141-26AB	5 19.6	-2 35.	5 23.4	-02 31	A	1	
41	35501			+1 1009			141-43AB	5 20.0	1 50.	5 23.9	+01 54	A	2	
42	35502			-2 1241			141-44A	5 20.0	-2 54.	5 23.8	-02 50	A	1	
43	35548	1800		-0 945			141-56AB	5 20.4	-0 38.	5 24.2	-00 34	A	2	
44	35575			-1 889				5 20.5	-1 35.	5 24.3	-01 31	A	1	
45	35588	1803		+0 1056				5 20.6	0 26.	5 24.5	+00 30	A	2	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
46	35612			+0 1058				5 20.9	0 45.	5 24.8	+00 49	A	2	
47	35657			+0 1063			A	5 21.2	0 43.	5 25.1	+00 47	A	2	1
48	35673			+2 961			142-20AB	5 21.3	2 51.	5 25.2	+02 55	A	2	
49	35715	1811	PSI ORI	+2 962			142-49AB	5 21.6	3 1.	5 25.5	+03 05	A	2	
50	35716			+1 1015				5 21.6	1 59.	5 25.5	+02 03	A	2	
51	35730			+3 901				5 21.7	3 32.	5 25.6	+03 36	A	2	
52	35731			-0 949				5 21.7	-0 44.	5 25.5	-00 40	A	2	
53	35762			+3 903				5 21.8	3 46.	5 25.8	+03 50	A	2	
54	35777			-2 1250				5 21.9	-2 27.	5 25.7	-02 23	A	1	
55	35793			-3 1102				5 22.0	-3 1.	5 25.8	-02 57	A	4	
56	35791			+1 1017				5 22.1	1 30.	5 26.0	+01 34	A	2	
57	35792			-1 897				5 22.1	-1 27.	5 25.9	-01 23	A	4	
58	35807			-3 1103				5 22.1	-3 1.	5 25.9	-02 57	A	4	
59	294103			-2 1252				5 22.3	-2 19.	5 26.1	-02 15	A	4	
60	35834			+0 1078			143-26AB	5 22.4	1 1.	5 26.3	+01 05	A	3	
61	35836			+0 1076				5 22.4	0 10.	5 26.2	+00 14	B3	3	
62	35868			-6 1185				5 22.5	-6 43.	5 26.2	-06 39	C	4	
63	35867			-0 958			A	5 22.6	-0 21.	5 26.4	-00 17	B3	3	1
64	290469			-2 1253				5 22.6	-2 3.	5 26.4	-01 59	A	4	
65	35881			+0 1082				5 22.7	1 1.	5 26.6	+01 05	A	3	
66	35882			-1 901				5 22.7	-1 54.	5 26.5	-01 50	A	4	
67	35899			-2 1254				5 22.7	-2 14.	5 26.5	-02 10	A	4	
68	35885			-7 1081				5 22.7	-7 1.	5 26.3	-06 57	C	4	
69	35912	1820		+1 1021				5 22.8	1 13.	5 26.7	+01 17	A	3	
70	35901			-7 1083				5 22.8	-6 58.	5 26.4	-06 54	C	4	
71	35910			+3 910				5 22.9	3 27.	5 26.8	+03 31	A	3	
72	35926			+0 1085			143-60AB	5 23.0	0 42.	5 26.9	+00 46	A	3	
73	290470			-2 1256				5 23.0	-2 6.	5 26.8	-02 02	A	4	
74	35948			-1 906				5 23.1	-1 51.	5 26.9	-01 47	A	4	
75	35970			+3 916				5 23.3	3 35.	5 27.2	+03 39	A	3	
76	35971			-0 960				5 23.3	-0 4.	5 27.1	00 00	B3	3	
77	35972			-0 961				5 23.3	-0 47.	5 27.1	-00 43	B3	3	
78	36012			+2 974				5 23.6	2 5.	5 27.5	+02 09	A	3	
79	36013			+1 1026			144-07A	5 23.6	1 33.	5 27.5	+01 37	A	3	
80	36032			-2 1260				5 23.6	-2 49.	5 27.4	-02 46	A	4	
81	36017			-4 1141			AB	5 23.6	-4 47.	5 27.3	-04 43	C	4	
82	36016			-4 1142				5 23.7	-4 17.	5 27.4	-04 13	C	4	
83	36056			+0 1088				5 23.8	0 14.	5 27.7	+00 18	B3	3	
84	36046			-0 964				5 23.8	-0 41.	5 27.6	-00 37	B3	3	
85	36057			-1 909			144-24AB	5 23.9	-1 51.	5 27.7	-01 47	A	4	
86	36075			-2 1262				5 24.0	-2 16.	5 27.8	-02 12	A	4	
87	36058	1826		-3 1115			144-35AB	5 24.0	-3 24.	5 27.7	-03 20	C	4	
88	290497			-0 967				5 24.2	-0 15.	5 28.0	-00 11	B3	3	
89	36120			-5 1269	82			5 24.2	-5 53.	5 27.9	-05 49	C	4	
90	36115			+5 934				5 24.3	5 9.	5 28.3	+05 13	A	3	

TABLE 1 (CONTINUED)

VH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
91	36133			+3 928			144-54A	5 24.3	3 4.	5 28.2	+03 08	A	3	
92	36118			-2 1266				5 24.3	-2 6.	5 28.1	-02 02	A	4	
93	294175			-4 1148	105			5 24.3	-4 40.	5 28.0	-04 36	C	4	
94					106			5 24.3	-4 48.	5 28.0	-04 44	C	4	
95	36119			-4 1147	92			5 24.3	-4 54.	5 28.0	-04 50	C	4	
96	36117			-0 968				5 24.4	-0 8.	5 28.2	-00 04	B3	3	
97	36139			-0 969				5 24.5	-0 6.	5 28.3	-00 02	B3	3	
98	294171				141			5 24.5	-4 11.	5 28.2	-04 07	C	4	
99	36151			-7 1092				5 24.6	-7 21.	5 28.2	-07 17	C	4	
100	36165			+1 1033				5 24.7	2 3.	5 28.6	+02 07	A	3	
101	36166	1833		+1 1032				5 24.7	1 42.	5 28.6	+01 46	A	3	
102	36176			-1 914				5 24.7	-1 45.	5 28.5	-01 41	A	4	
103	36219			-1 918			145-06AB	5 25.0	-1 50.	5 28.8	-01 46	A	4	
104	294170			-4 1149	286			5 25.0	-4 3.	5 28.7	-03 59	C	4	
105	36202			-5 1273	311			5 25.0	-5 1.	5 28.7	-04 57	C	4	
106	36203			-7 1096				5 25.0	-7 44.	5 28.6	-07 40	C	4	
107	290517			-1 920				5 25.1	-1 7.	5 28.9	-01 03	B3	4	
108	290516			-1 921				5 25.2	-0 59.	5 29.0	-00 55	B3	4	
109	36234			-5 1274	378			5 25.2	-5 17.	5 28.9	-05 13	C	4	
110	36235			-6 1197	371			5 25.2	-5 60.	5 28.9	-05 56	C	4	
111	36267	1839	32 ORI	+5 939			145-25AB	5 25.4	5 52.	5 29.4	+05 56	A	3	
112	290515			-0 976				5 25.4	-0 56.	5 29.2	-00 52	B3	4	
113	36285	1840		-7 1099				5 25.5	-7 31.	5 29.1	-07 27	C	4	
114	36310			+4 953			145-44ABC	5 25.6	4 35.	5 29.6	+04 39	A	3	
115	36312			-0 978				5 25.7	-0 3.	5 29.5	+00 01	B3	3	
116	290490							5 25.7	-0 10.	5 29.5	-00 06	B3	3	
117	36313			-0 977			145-34AB	5 25.7	-0 27.	5 29.5	-00 23	B3	3	
118	36341			-2 1274				5 25.9	-2 27.	5 29.6	-02 23	B2	4	
119	36324			-5 1277	530			5 25.8	-5 35.	5 29.5	-05 31	C	4	
120	36340			+3 944				5 25.9	3 17.	5 29.8	+03 20	A	3	
121	36352			-2 1275				5 25.9	-2 46.	5 29.7	-02 43	B2	4	
122	36342			-4 1152	557			5 25.9	-4 20.	5 29.6	-04 16	C	4	
123	36351	1842	33 ORI	+3 948			145-58AB	5 26.0	3 13.	5 29.9	+03 16	A	3	
124	294166			-3 1119				5 26.0	-3 40.	5 29.7	-03 37	C	4	
125	294180			-5 1278	571			5 26.0	-5 2.	5 29.7	-04 59	C	4	
126	36364			-4 1154	595			5 26.1	-4 0.	5 29.8	-03 57	C	4	
127	36364			-4 1153	583			5 26.1	-4 40.	5 29.8	-04 37	C	4	
128	36366			-6 1204	597		145-63A	5 26.1	-6 16.	5 29.8	-06 13	C	4	
129	290492			-0 980			145-72AB	5 26.2	-0 33.	5 30.0	-00 30	B3	3	
130	36392			+1 1045				5 26.3	1 37.	5 30.2	+01 40	A	3	
131	290491			-0 979				5 26.3	-0 16.	5 30.1	-00 13	B3	3	
132	36393			-2 1278				5 26.3	-2 3.	5 30.1	-02 00	B2	4	
133				-6 1205	612			5 26.3	-6 45.	5 29.9	-06 42	C	4	
134	36411			-4 1156	664			5 26.4	-4 0.	5 30.1	-03 57	C	4	
135	36412		EY ORI	-5 1281	662			5 26.4	-5 46.	5 30.1	-05 43	C	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
136	36429			+2 986			146-03A	5 26.5	2 46.	5 30.4	+02 49	A	3	
137	36430	1848		-6 1207	679			5 26.5	-6 47.	5 30.1	-06 44	C	4	
138	36444			-1 928				5 26.6	-1 12.	5 30.4	-01 09	B2	4	
139	36471			+5 951				5 26.8	5 59.	5 30.8	+06 02	A	3	
140	36485	1851		-0 982			146-22C	5 26.9	-0 21.	5 30.7	-00 18	B3	3	
141	36486	1852	DELTA ORI	-0 983			146-22A	5 26.9	-0 22.	5 30.7	-00 19	B3	3	
142	294219			-4 1158	775			5 26.9	-4 20.	5 30.6	-04 17	C	4	
143	36487			-7 1103				5 26.9	-7 7.	5 30.5	-07 04	C	4	
144				-0 984				5 27.0	-0 30.	5 30.8	-00 27	B3	3	9
145	36502			-1 931				5 27.0	-1 32.	5 30.8	-01 29	B2	4	
146	36513			-7 1105				5 27.0	-7 47.	5 30.6	-07 44	C	4	
147	36512	1855	UPSIL ORI	-7 1106				5 27.1	-7 22.	5 30.7	-07 19	C	4	
148	36526			-1 933				5 27.2	-1 40.	5 31.0	-01 37	B2	4	
149				-7 1108				5 27.2	-7 19.	5 30.8	-07 16	C	4	
150	36527			-3 1130				5 27.3	-3 38.	5 31.0	-03 35	C	4	
151	36540		IC 420	-4 1162	867			5 27.3	-4 35.	5 31.0	-04 32	C	4	
152	36550			-6 1211	884		146-56B	5 27.3	-6 28.	5 31.0	-06 25	C	4	
153	36541			-6 1209	854			5 27.3	-6 47.	5 30.9	-06 44	C	4	
154				-5 1284	880			5 27.4	-5 52.	5 31.1	-05 49	C	4	
155	36560			-6 1212	892		146-56A	5 27.4	-6 28.	5 31.1	-06 26	C	4	
156	36549			+1 1053				5 27.5	2 2.	5 31.4	+02 05	A	3	
157	36559			-4 1163	908			5 27.5	-4 39.	5 31.2	-04 36	C	4	
158				-6 1214	934			5 27.5	-6 22.	5 31.2	-06 19	C	4	
159	36591	1861		-1 935			146-65AB	5 27.6	-1 40.	5 31.4	-01 37	B2	4	
160	36592			-2 1285				5 27.6	-2 6.	5 31.4	-02 03	B2	4	
161	36590			-1 936				5 27.7	-1 6.	5 31.5	-01 03	B2	4	
162	294216				1107			5 27.7	-4 5.	5 31.4	-04 02	C	4	
163	36605			-0 988				5 27.8	-0 47.	5 31.6	-00 44	B3	3	
164	36617			-2 1286				5 27.8	-2 16.	5 31.6	-02 13	B2	4	
165	36606			-5 1285	1001	2		5 27.8	-5 2.	5 31.5	-04 59	C	4	
166	36607			-6 1216	990			5 27.8	-6 57.	5 31.4	-06 54	C	4	
167	36627			+3 958				5 27.9	3 4.	5 31.8	+03 07	A	3	
168	294225			-5 1287	1034	17		5 27.9	-5 13.	5 31.6	-05 10	C	4	
169	36630			-6 1218	1043		147-11B	5 27.9	-6 34.	5 31.6	-06 31	C	4	
170	36628			-1 938				5 28.0	-1 18.	5 31.8	-01 15	B2	4	
171	36629			-4 1164	1044	25		5 28.0	-4 38.	5 31.7	-04 35	C	4	
172				-6 1217	1046		147-11A	5 28.0	-6 34.	5 31.7	-06 31	C	4	
173	36646	1863		-1 939			147-21AB	5 28.1	-1 47.	5 31.9	-01 44	B2	4	
174	290617			-2 1287				5 28.1	-2 0.	5 31.9	-01 57	B2	4	
175	36645			+2 998				5 28.2	2 19.	5 32.1	+02 22	A	3	
176	36668			+0 1113				5 28.2	0 33.	5 32.1	+00 36	B3	3	
177	36655			-5 1289	1097	50		5 28.2	-5 24.	5 31.9	-05 21	C	4	
178				-5 1288	1089	46		5 28.2	-5 39.	5 31.9	-05 36	C	4	
179	36684			-1 942			147-35AB	5 28.3	-1 8.	5 32.1	-01 05	B2	4	
180	36671			-4 1165	1117	59		5 28.3	-4 42.	5 32.0	-04 39	C	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900) DEC	RA(1975) DEC	GR	C	N
181				-6 1219	1139	68		5 28.3 -6 11.	5 32.0 -06 08	C	4	
182	36670			-4 1166	1126	62		5 28.4 -4 25.	5 32.1 -04 22	C	4	
183					1158	78		5 28.4 -5 32.	5 32.1 -05 29	C	4	
184	36695	1868	VV ORI	-1 943				5 28.5 -1 13.	5 32.3 -01 10	B2	4	
185					1179	89		5 28.5 -4 34.	5 32.2 -04 31	C	4	
186	36712			-6 1223	1196	100		5 28.5 -6 7.	5 32.2 -06 04	C	4	
187	36697			-7 1115				5 28.5 -7 39.	5 32.1 -07 36	C	4	
188	36694			-0 991				5 28.6 -0 20.	5 32.4 -00 17	B3	3	
189	290603			-1 944				5 28.6 -1 40.	5 32.4 -01 37	B2	4	
190	294224				1212	111		5 28.6 -5 9.	5 32.3 -05 06	C3	4	
191				-5 1290	1199	102		5 28.6 -5 49.	5 32.3 -05 46	C	4	
192	36714			-6 1222	1186			5 28.6 -6 47.	5 32.2 -06 44	C	4	
193	36741	1871		+1 1058				5 28.8 1 20.	5 32.7 +01 23	A	3	
194	36726			-0 993			147-70A	5 28.8 -0 9.	5 32.6 -00 06	B3	3	
195	294223			-5 1291	1241	127		5 28.8 -5 5.	5 32.5 -05 02	C3	4	
196	36742			-5 1292	1259	135		5 28.8 -5 14.	5 32.5 -05 11	C3	4	
197	36781			-1 948				5 28.9 -1 49.	5 32.7 -01 46	B2	4	
198				-5 1293	1281	145		5 28.9 -5 37.	5 32.6 -05 34	C	4	
199	36776			+4 975				5 29.0 4 46.	5 33.0 +04 49	A	3	
200	290556			+0 1118				5 29.0 0 21.	5 32.9 +00 24	B3	3	
201	36760			-0 996				5 29.0 -0 33.	5 32.8 -00 30	B3	3	
202	36779	1873		-1 949			147-80A	5 29.0 -1 6.	5 32.8 -01 03	B2	4	
203	290605							5 29.0 -1 50.	5 32.8 -01 47	B2	4	
204				-5 1295	1306	161		5 29.0 -5 40.	5 32.7 -05 37	C	4	
205				-5 1296	1307	162		5 29.0 -5 43.	5 32.7 -05 40	C	4	
206	36783			-6 1226	1303			5 29.0 -6 41.	5 32.7 -06 38	C	4	
207				-7 1118	1312			5 29.0 -6 59.	5 32.6 -06 56	C	4	
208	36811			-2 1294			A	5 29.1 -1 58.	5 32.9 -01 55	B2	4	B
209	36810			+1 1059				5 29.2 1 18.	5 33.1 +01 21	A	3	
210	36826			-2 1297				5 29.2 -2 27.	5 33.0 -02 24	B2	4	
211	36827			-2 1296				5 29.2 -2 57.	5 33.0 -02 54	B2	4	
212					1357	187		5 29.2 -4 24.	5 32.9 -04 21	C1	4	
213	36825			-0 999				5 29.3 -0 50.	5 33.1 -00 47	B2	4	
214	294202			-3 1140				5 29.3 -3 19.	5 33.0 -03 16	C	4	
215				-5 1298	1391	211		5 29.3 -5 16.	5 33.0 -05 13	C3	4	
216				-5 1297	1374	203		5 29.3 -5 27.	5 33.0 -05 24	D1	4	
217				-5 1299	1394	216		5 29.3 -5 41.	5 33.0 -05 38	D1	4	
218	36813			-6 1227	1368			5 29.3 -6 54.	5 32.9 -06 51	C	4	
219	36824			+5 958				5 29.4 5 36.	5 33.4 +05 39	A	3	
220				-6 1228	1400			5 29.4 -6 56.	5 33.0 -06 53	C	4	
221	36841			-0 1002				5 29.5 -0 27.	5 33.3 -00 24	B3	3	
222	290666			-0 1003				5 29.5 -0 57.	5 33.3 -00 54	B2	4	
223	36863			-1 952				5 29.5 -1 49.	5 33.3 -01 46	B2	4	
224	36842			-4 1168	1445	246		5 29.5 -4 26.	5 33.2 -04 23	C1	4	
225	36843			-4 1167	1441	243		5 29.5 -4 52.	5 33.2 -04 49	C2	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
226					1455	252		5 29.5	-5 26.	5 33.2	-05 23	D1	4	
227	36865			-4 1171	1491	281	148-37AB	5 29.6	-4 33.	5 33.3	-04 30	C1	4	
228	294265			-5 1302	1507	295		5 29.6	-5 7.	5 33.3	-05 04	C3	4	
229	36866			-5 1301	1511	304		5 29.6	-5 47.	5 33.3	-05 44	C	4	
230					1513	300		5 29.6	-5 50.	5 33.3	-05 47	C	4	
231	36867			-7 1122				5 29.6	-7 27.	5 33.2	-07 24	C	4	
232	294261			-4 1169	1457	255		5 29.7	-4 37.	5 33.4	-04 34	C1	4	
233					1539	328		5 29.7	-5 14.	5 33.4	-05 11	C3	4	
234	36897			+5 962				5 29.8	5 24.	5 33.8	+05 27	A	3	
235	290636			+0 1123				5 29.8	0 2.	5 33.6	+00 05	B3	3	
236	36883			-4 1172	1546	330	148-54AB	5 29.8	-4 27.	5 33.5	-04 24	C1	4	
237	36899			-5 1304	1562	342		5 29.8	-5 11.	5 33.5	-05 08	C3	4	
238					1575	359		5 29.8	-5 22.	5 33.5	-05 19	D1	5	
239				-6 1230	1590	381	148-60C	5 29.8	-6 3.	5 33.5	-06 00	C4	4	
240	36898			-0 1005			148-53AB	5 29.9	-0 11.	5 33.7	-00 08	B3	3	
241	36915			-0 1006				5 29.9	-0 53.	5 33.7	-00 50	B2	4	
242				-5 1306	1623	405		5 29.9	-5 23.	5 33.6	-05 20	D1	5	
243	36917		V372 ORI	-5 1305	1605	388		5 29.9	-5 38.	5 33.6	-05 35	D1	4	
244					1626	407		5 29.9	-5 56.	5 33.6	-05 53	C4	4	
245	36919			-6 1232	1627	414	148-59B	5 29.9	-6 4.	5 33.6	-06 01	C4	4	
246	36918			-6 1231	1634	417	148-59A	5 29.9	-6 4.	5 33.6	-06 01	C4	4	
247	36955			-1 955				5 30.0	-1 28.	5 33.8	-01 25	B2	4	
248	36916			-4 1173	1628			5 30.0	-4 11.	5 33.7	-04 08	C1	4	
249	36936			-4 1176	1664	440		5 30.0	-4 25.	5 33.7	-04 22	C1	4	
250	294257			-4 1174	1646	425		5 30.0	-4 25.	5 33.7	-04 22	C1	4	
251	36938			-4 1175	1654	437		5 30.0	-4 50.	5 33.7	-04 47	C2	4	
252	36939			-5 1308	1660	442		5 30.0	-5 34.	5 33.7	-05 31	D1	4	
253					1657	438		5 30.0	-6 2.	5 33.7	-05 59	C4	4	
254					1662	444		5 30.0	-6 6.	5 33.7	-06 03	C4	4	
255	36935			-0 1007				5 30.1	-0 20.	5 33.9	-00 17	B3	3	
256	36954			-0 1009				5 30.1	-0 48.	5 33.9	-00 45	B2	4	
257	290665			-0 1008				5 30.1	-0 58.	5 33.9	-00 55	B2	4	
258	36957			-4 1178	1698	472		5 30.1	-4 27.	5 33.8	-04 24	C1	4	
259	36937			-4 1177	1671	454		5 30.1	-4 36.	5 33.8	-04 33	C1	4	
260	36958		KX ORI	-4 1179	1708	480	A	5 30.1	-4 48.	5 33.8	-04 45	C2	4	2
261				-5 1309	1683	464		5 30.1	-5 9.	5 33.8	-05 06	C3	4	
262				-5 1310	1712	479		5 30.1	-5 10.	5 33.8	-05 07	C3	4	
263			KS ORI		1685	466		5 30.1	-5 29.	5 33.8	-05 26	D	5	
264					1740	508		5 30.1	-6 3.	5 33.8	-06 00	C4	4	
265	36959	1886		-6 1233	1716	482	148-73B	5 30.1	-6 4.	5 33.8	-06 01	C4	4	
266	36960	1887		-6 1234	1728	493	148-73A	5 30.1	-6 4.	5 33.8	-06 01	C4	4	
267	36980			-1 956			149-01AB	5 30.2	-1 58.	5 34.0	-01 55	B2	4	7
268	36958				1719	486	B	5 30.2	-4 47.	5 33.9	-04 44	C2	4	2
269	36981			-5 1311	1744	502		5 30.2	-5 16.	5 33.9	-05 13	C3	4	
270	36982		LP ORI	-5 1313	1772	530		5 30.2	-5 32.	5 33.9	-05 29	D	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
271	36983			-5 1312	1768	520		5 30.2	-5 56.	5 33.9	-05 53	C4	4	
272					1789	540		5 30.2	-6 6.	5 33.9	-06 03	C4	4	
273	37001			-6 1238	1792			5 30.2	-6 38.	5 33.9	-06 35	C	4	
274	37015			+0 1128				5 30.3	0 26.	5 34.2	+00 29	B3	3	
275	294248			-3 1143				5 30.3	-3 16.	5 34.0	-03 13	C	4	
276	36998			-4 1180	1795	529		5 30.3	-4 40.	5 34.0	-04 37	C1	4	
277	294264			-4 1181	1798	545		5 30.3	-4 56.	5 34.0	-04 53	C2	4	
278	37021	1894	BM ORI	-5 1315	1863	595	149-18D	5 30.3	-5 27.	5 34.0	-05 24	D	5	3
279	37020	1893	THE 1 ORI	-5 1315	1865	587	149-17CE	5 30.3	-5 27.	5 34.0	-05 24	D	5	
280	37022	1895	THE 1 ORI	-5 1315	1891	598	149-19AF	5 30.3	-5 28.	5 34.0	-05 25	D	5	
281	36999			-5 1314	1849	581		5 30.3	-5 54.	5 34.0	-05 51	C4	4	
282	37000			-6 1237	1813	552		5 30.3	-6 0	5 34.0	-05 57	C4	4	
283	37025			-6 1240	1901	621		5 30.3	-6 6.	5 34.0	-06 03	C4	4	
284	37016	1891		-4 1184	1932	631	149-09AB	5 30.4	-4 29.	5 34.1	-04 26	C1	4	
285	37017	1890		-4 1183	1933	632		5 30.4	-4 34.	5 34.1	-04 31	C1	4	
286	294262			-4 1182	1881	599	149-10A	5 30.4	-4 45.	5 34.1	-04 42	C2	4	
287	294263		LZ ORI	-4 1182	1854	582	149-10B	5 30.4	-4 45.	5 34.1	-04 42	C2	4	
288	37019			-5 1316	1905	608		5 30.4	-5 8.	5 34.1	-05 05	C3	4	
289			MX ORI	-5 1317	1953	653		5 30.4	-5 13.	5 34.1	-05 10	C3	4	
290					1955	656		5 30.4	-5 16.	5 34.1	-05 13	C3	4	
291				-5 1318	1956	655		5 30.4	-5 26.	5 34.1	-05 23	D	5	
292	37023	1896	THE 1 ORI	-5 1315	1889	612	149-23B	5 30.4	-5 27.	5 34.1	-05 24	D	5	
293	37037			-0 1011				5 30.5	0 2.	5 34.3	+00 05	B3	3	
294	290684			-1 963				5 30.5	-1 51.	5 34.3	-01 48	B2	4	
295	37018	1892	42 ORI	-4 1185	1970	659	149-11AB	5 30.5	-4 54.	5 34.2	-04 51	C2	4	
296	37041	1897	THE 2 ORI	-5 1319	1993	682	149-34A	5 30.5	-5 29.	5 34.2	-05 26	D	5	
297	37042		THE 2 ORI	-5 1320	2031	714	149-34B	5 30.5	-5 29.	5 34.2	-05 26	D	5	
298				-5 1326	2058	734	149-45B	5 30.5	-5 30.	5 34.2	-05 27	D	5	
299				-5 1322	2035	720		5 30.5	-5 52.	5 34.2	-05 49	C4	4	
300				-5 1321	2036	718		5 30.5	-5 55.	5 34.2	-05 52	C4	4	
301	37043	1899	IOTA ORI	-6 1241	2037	721	149-37AB	5 30.5	-5 59.	5 34.2	-05 56	C4	4	
302	37055	1900		-3 1146			149-43AB	5 30.6	-3 19.	5 34.3	-03 16	C	4	
303	37040	1898		-4 1186	2054	722	149-44AB	5 30.6	-4 26.	5 34.3	-04 23	C1	4	
304	37058		V359 ORI	-4 1187	2083	761		5 30.6	-4 54.	5 34.3	-04 51	C2	4	
305	37059			-5 1323	2065	736		5 30.6	-4 58.	5 34.3	-04 55	C2	4	
306	37060			-5 1327	2102	776		5 30.6	-5 10.	5 34.3	-05 07	C3	4	
307	37061		NU ORI	-5 1325	2074	747		5 30.6	-5 20.	5 34.3	-05 17	D1	4	
308	37062		V361 ORI	-5 1326	2085	760	149-45A	5 30.6	-5 29.	5 34.3	-05 26	D	5	
309			NV ORI	-5 1324	2086	767		5 30.6	-5 37.	5 34.3	-05 34	D1	4	
310	37076			-1 965			149-46A	5 30.7	-1 3.	5 34.5	-01 00	B2	4	
311	290671			-1 966			149-46B	5 30.7	-1 3.	5 34.5	-01 00	B2	4	
312	37056			-3 1148				5 30.7	-3 23.	5 34.4	-03 20	C	4	
313	37057			-3 1147				5 30.7	-3 39.	5 34.4	-03 36	C	4	
314	37077	1901	45 ORI	-4 1188	2131	806	149-47A	5 30.7	-4 55.	5 34.4	-04 52	C2	4	
315			V566 ORI	-5 1328	2118	786		5 30.7	-5 16.	5 34.4	-05 13	C3	4	

TABLE I (CONTINUED)

VII	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
316	37078			-6 1242	2124	796		5 30.7	-6 9.	5 34.4	-06 06	C4	4	
317	37102			-6 1245	2219	872		5 30.8	-6 5.	5 34.5	-06 02	C4	4	
318	37113			-1 968				5 30.9	-1 50.	5 34.7	-01 47	B2	4	
319	294256				2222	871		5 30.9	-4 19.	5 34.6	-04 16	C1	4	
320			T ORI	-5 1329	2247	884		5 30.9	-5 33.	5 34.6	-05 30	D1	4	
321					2248	885		5 30.9	-5 44.	5 34.6	-05 41	D1	4	
322	37091			-6 1244	2189			5 30.9	-6 48.	5 34.5	-06 45	C	4	
323	37111			-0 1016				5 31.0	-0 24.	5 34.8	-00 21	B3	3	
324	37112			-0 1017				5 31.0	-0 51.	5 34.8	-00 48	B2	4	
325					2267	903		5 31.0	-4 40.	5 34.7	-04 37	C1	4	
326	37114			-5 1331	2284	920		5 31.0	-5 26.	5 34.7	-05 23	D1	4	
327	37115			-5 1330	2271	907	149-59AB	5 31.0	-5 42.	5 34.7	-05 39	D1	4	
328	37128	1903	EPSIL ORI	-1 969			149-63A	5 31.1	-1 16.	5 34.9	-01 13	B2	4	
329	37130			-4 1189	2302	929		5 31.1	-4 49.	5 34.8	-04 46	C2	4	
330	294266			-5 1332	2290	923		5 31.1	-4 60.	5 34.8	-04 57	C2	4	
331	37131			-6 1247	2308			5 31.1	-6 20.	5 34.8	-06 17	C	4	
332	37140			-0 1018				5 31.2	-0 22.	5 35.0	-00 19	B3	3	
333	290677			-1 970				5 31.2	-1 34.	5 35.0	-01 31	B2	4	
334	37149			-1 971				5 31.2	-1 42.	5 35.0	-01 39	B2	4	
335	37129			-4 1190	2314	940		5 31.2	-4 29.	5 34.9	-04 26	C1	4	
336				-6 1249	2329			5 31.2	-6 25.	5 34.9	-06 22	C	4	
337				-6 1248	2324			5 31.2	-6 54.	5 34.8	-06 51	C	4	
338	37142			-5 1333	2342	958		5 31.3	-5 8.	5 35.0	-05 05	C3	4	
339	37150	1906		-5 1334	2366	980		5 31.3	-5 43.	5 35.0	-05 40	D1	4	
340	37151			-7 1131				5 31.3	-7 28.	5 34.9	-07 25	C	4	
341	37173			-2 1311				5 31.4	-2 3.	5 35.2	-02 00	B2	4	
342	37187			-1 974				5 31.5	-1 6.	5 35.3	-01 03	B2	4	
343	37172			-1 973				5 31.5	-1 18.	5 35.3	-01 15	B2	4	
344	37174			-5 1335	2387	992		5 31.5	-5 28.	5 35.2	-05 25	D1	4	
345	37188			-5 1336	2396	1001		5 31.6	-5 50.	5 35.3	-05 47	C	4	
346	37210			-6 1254	2410			5 31.6	-6 31.	5 35.3	-06 28	C	4	
347	37208			-5 1338	2420	1016		5 31.7	-5 12.	5 35.4	-05 09	C3	4	
348				-5 1337	2424	1019		5 31.7	-5 24.	5 35.4	-05 21	D1	4	
349					2425	1018		5 31.7	-5 32.	5 35.4	-05 29	D1	4	
350	37209	1911		-6 1255	2422	1017	150-14AB	5 31.7	-6 8.	5 35.4	-06 05	C	4	
351				-6 1256	2428			5 31.7	-6 29.	5 35.4	-06 26	C	4	
352	294253			-3 1154				5 31.8	-3 34.	5 35.5	-03 31	C	4	
353	37234			+4 989			150-21ABC	5 31.9	4 42.	5 35.9	+04 45	A	3	
354	37235			-0 1023				5 31.9	-0 46.	5 35.7	-00 43	B2	4	
355	290672			-1 976				5 31.9	-1 23.	5 35.7	-01 20	B2	4	
356				-5 1339	2466	1046		5 32.0	-5 56.	5 35.7	-05 53	C	4	
357	37258		V586 ORI	-6 1257	2473	1051		5 32.1	-6 13.	5 35.8	-06 10	C	4	
358	37272			-1 979				5 32.2	-1 44.	5 36.0	-01 41	B2	4	
359	294270							5 32.2	-2 36.	5 36.0	-02 33	B1	4	
360					2494	1069		5 32.2	-6 10.	5 35.9	-06 07	C	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	DRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
361	37284			-0 1027				5 32.3	-0 46.	5 36.1	-00 43	B2	3	
362	37273			-3 1158				5 32.3	-3 54.	5 36.0	-03 51	C	4	
363					2500	1073		5 32.3	-5 44.	5 36.0	-05 41	C	4	
364			BF ORI	-6 1259	2510			5 32.3	-6 39.	5 36.0	-06 36	C	4	
365	294286			-4 1192	2505			5 32.4	-4 1.	5 36.1	-03 58	C	4	
366					2515			5 32.4	-4 9.	5 36.1	-04 06	C	4	
367				-4 1193	2519	1082		5 32.4	-4 44.	5 36.1	-04 41	C	4	
368				-5 1341	2507	1076		5 32.4	-5 6.	5 36.1	-05 03	C	4	
369					2526	1083		5 32.4	-5 36.	5 36.1	-05 33	C	4	
370				-6 1261	2536	1090		5 32.4	-6 5.	5 36.1	-06 02	C	4	
371				-6 1260	2527			5 32.4	-6 30.	5 36.1	-06 27	C	4	
372	37321			-1 982			150-54AB	5 32.5	-1 29.	5 36.3	-01 26	B2	4	
373	294275			-2 1317				5 32.5	-2 50.	5 36.3	-02 47	B1	4	
374	37303	1918		-6 1262	2545	1098		5 32.5	-5 60.	5 36.2	-05 57	C	4	
375	37304			-7 1137				5 32.5	-7 15.	5 36.1	-07 12	C	4	
376	37333			-2 1319				5 32.6	-2 30.	5 36.4	-02 27	B1	4	
377	37342			+0 1140			150-67B	5 32.7	0 55.	5 36.6	+00 58	A	3	
378	37330			+0 1138			150-67A	5 32.7	0 54.	5 36.6	+00 57	A	3	
379	37332			-0 1031				5 32.7	-0 51.	5 36.5	-00 48	B2	4	
380	37322			-3 1159				5 32.7	-3 43.	5 36.4	-03 40	C	4	
381	37334			-5 1342	2564	1109		5 32.7	-4 60.	5 36.4	-04 57	C	4	
382	294296			-5 1344	2575	1113		5 32.7	-5 9.	5 36.4	-05 06	C	4	
383	37344			-1 984				5 32.8	-1 39.	5 36.6	-01 36	B2	4	
384				-6 1263	2592			5 32.8	-6 38.	5 36.5	-06 35	C	4	
385	294269							5 32.9	-2 30.	5 36.7	-02 27	B1	4	
386				-6 1266	2603			5 32.9	-6 30.	5 36.6	-06 27	C	4	
387	37372			-6 1265	2604			5 32.9	-6 32.	5 36.6	-06 29	C	4	
388	37370			-0 1034			150-80AB	5 33.0	-0 15.	5 36.8	-00 12	B2	3	4
389	294295				2609	1131		5 33.0	-4 51.	5 36.7	-04 48	C	4	
390	37356	1923		-4 1196	2602	1129		5 33.0	-4 53.	5 36.7	-04 50	C	4	
391	37357			-6 1264	2599		150-75AB	5 33.0	-6 46.	5 36.6	-06 43	C	4	
392	37373			-6 1267	2608			5 33.0	-6 47.	5 36.6	-06 44	C	4	
393	37371			-0 1035			151-04CD	5 33.1	-0 15.	5 36.9	-00 12	B2	3	
394	290750			-1 986				5 33.1	-1 7.	5 36.9	-01 04	B2	4	
395	37390			-6 1268	2626			5 33.1	-6 18.	5 36.8	-06 15	C	4	
396				-6 1269	2627			5 33.1	-6 27.	5 36.8	-06 24	C	4	
397	37397			-1 987				5 33.2	-1 14.	5 37.0	-01 11	B2	4	
398					2632			5 33.2	-4 43.	5 36.9	-04 40	C	4	
399	37412			-6 1270	2646			5 33.2	-6 30.	5 36.9	-06 27	C	4	
400	37410			-4 1198	2647			5 33.3	-4 10.	5 37.0	-04 07	C	4	
401					2652			5 33.3	-5 16.	5 37.0	-05 13	C	4	
402	37411			-5 1346	2653			5 33.3	-5 29.	5 37.0	-05 26	C	4	
403	37413			-7 1139				5 33.3	-7 49.	5 36.9	-07 46	C	4	
404	37427			-0 1036			151-35AB	5 33.4	-0 13.	5 37.2	-00 10	B2	3	
405	294273			-2 1322				5 33.4	-2 48.	5 37.2	-02 45	B1	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
406	37428			-6 1271	2669		AB	5 33.4	-6 12.	5 37.1	-06 09	C	4	1
407	294271			-2 1324			151-37B	5 33.5	-2 37.	5 37.3	-02 34	B1	4	
408	294272			-2 1323			151-37A	5 33.5	-2 38.	5 37.3	-02 35	B1	4	
409	294291			-4 1199	2672			5 33.5	-4 5.	5 37.2	-04 02	C	4	
410	37444			-5 1347	2674			5 33.5	-5 6.	5 37.2	-05 03	C	4	
411	37455			-5 1348	2680			5 33.6	-5 11.	5 37.3	-05 08	C	4	
412				-6 1273	2687			5 33.6	-6 29.	5 37.3	-06 26	C	4	
413	37467			+2 1028				5 33.7	2 48.	5 37.6	+02 51	A	3	
414	37479	1932	SIGMA ORI	-2 1327			151-49E	5 33.7	-2 39.	5 37.5	-02 36	B1	4	
415	37468	1931	SIGMA ORI	-2 1326			151-46AB	5 33.7	-2 40.	5 37.5	-02 37	B1	4	
416	37469			-4 1200	2701			5 33.7	-4 45.	5 37.4	-04 42	C	4	
417	37470			-6 1274	2699			5 33.7	-6 14.	5 37.4	-06 11	C	4	
418					2700		B	5 33.7	-6 38.	5 37.4	-06 35	C	4	1
419	37481	1933		-6 1275	2711		A	5 33.7	-6 38.	5 37.4	-06 35	C	4	1
420				-6 1276	2721			5 33.8	-6 41.	5 37.5	-06 38	C	4	
421	37490	1934	OMEGA ORI	+4 1002				5 33.9	4 4.	5 37.9	+04 07	A	3	
422	37480			-4 1201	2729			5 33.9	-4 20.	5 37.6	-04 17	C	4	
423	37492			-8 1183				5 33.9	-8 32.	5 37.5	-08 29	C	4	
424	37524			-2 1329				5 34.0	-2 4.	5 37.8	-02 01	B1	4	
425	37525			-2 1328				5 34.0	-2 43.	5 37.8	-02 40	B1	4	
426	37545			-3 1165				5 34.1	-3 1.	5 37.9	-02 58	B1	4	
427	37526			-5 1351	2758			5 34.1	-5 15.	5 37.8	-05 12	C	4	
428	37547			-6 1278	2762			5 34.1	-6 9.	5 37.8	-06 06	C	4	
429	37527			-6 1277	2763			5 34.1	-6 34.	5 37.8	-06 31	C	4	
430	37564			-2 1330				5 34.2	-2 35.	5 38.0	-02 32	B1	4	
431				-5 1352	2768			5 34.2	-4 59.	5 37.9	-04 56	C	4	
432	290743			-0 1039				5 34.3	-0 49.	5 38.1	-00 46	B2	4	
433	37591			+4 1003				5 34.4	4 22.	5 38.4	+04 25	A	3	
434	37577			-1 994				5 34.4	-1 39.	5 38.2	-01 36	B1	4	
435	37592			+0 1146				5 34.5	0 51.	5 38.4	+00 54	A	3	
436	37606			+1 1088				5 34.6	1 26.	5 38.5	+01 29	A	3	
437	294299							5 34.7	-2 30.	5 38.5	-02 27	B1	4	
438	37633			-2 1332				5 34.7	-2 44.	5 38.5	-02 41	B1	4	
439				-5 1354	2826			5 34.7	-5 22.	5 38.4	-05 19	C	4	
440	37635	1942		-9 1197				5 34.7	-9 46.	5 38.3	-09 43			5
441	37641			-1 997				5 34.9	-1 59.	5 38.7	-01 56	B1	4	6
442	294298							5 34.9	-2 27.	5 38.7	-02 24	B1	4	
443	37642			-3 1167				5 35.0	-3 24.	5 38.7	-03 21	C	4	
444	37663			-6 1281	2866			5 35.1	-6 50.	5 38.7	-06 47	C	4	
445	290798			-0 1046				5 35.2	-0 47.	5 39.0	-00 45	B2	3	
446	37674		IC 431	-1 1001				5 35.2	-1 30.	5 39.0	-01 28	B1	4	
447	37686			-2 1335				5 35.2	-2 34.	5 39.0	-02 32	B1	4	
448	294307			-2 1334				5 35.2	-2 55.	5 39.0	-02 53	B1	4	
449	290813							5 35.3	-1 50.	5 39.1	-01 48	B1	4	
450	37699			-2 1336				5 35.3	-2 29.	5 39.1	-02 27	B1	4	

TABLE 1 (CONTINUED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
451				-5 1356	2904			5 35.3	-5 39.	5 39.0	-05 37	C	4	
452	290799			-0 1047				5 35.4	-0 49.	5 39.2	-00 47	B2	4	
453	294301							5 35.4	-2 43.	5 39.2	-02 41	B1	4	
454	37687			-3 1168				5 35.4	-3 28.	5 39.1	-03 26	C	4	
455	294297							5 35.5	-2 29.	5 39.3	-02 27	B1	4	
456	37700			-4 1210	2921			5 35.5	-4 28.	5 39.2	-04 26	C	4	
457	290787			-0 1050				5 35.6	-0 20.	5 39.4	-00 18	B2	3	
458	37744	1950		-2 1337				5 35.6	-2 52.	5 39.4	-02 50	B1	4	
459	294319			-4 1211	2929			5 35.6	-4 24.	5 39.3	-04 22	C	4	
460	37742	1948	ZETA ORI	-2 1338			152-52AB	5 35.7	-1 59.	5 39.5	-01 57	B1	4	
461	37745			-4 1212				5 35.7	-3 59.	5 39.4	-03 57	C	4	
462					2946			5 35.7	-4 20.	5 39.4	-04 18	C	4	
463	37756	1952		-1 1004				5 35.8	-1 10.	5 39.6	-01 08	B1	4	
464	37789			-1 1006				5 35.9	-1 12.	5 39.7	-01 10	B1	4	
465	37776		IC 432	-1 1005				5 35.9	-1 33.	5 39.7	-01 31	B1	4	
466	294304			-2 1342				5 35.9	-2 47.	5 39.7	-02 45	B1	4	
467	294326			-4 1213	2963			5 35.9	-4 46.	5 39.6	-04 44	C	4	
468	37805			-2 1343				5 36.0	-2 21.	5 39.8	-02 19	B1	4	
469	37806			-2 1344				5 36.0	-2 46.	5 39.8	-02 44	B1	4	
470	294316			-3 1169				5 36.0	-3 58.	5 39.7	-03 56	C	4	
471	37807			-3 1171				5 36.2	-3 41.	5 39.9	-03 39	C	4	
472	37886			-3 1172				5 36.5	-3 1.	5 40.3	-02 59	B1	4	
473	37903		NGC 2023	-2 1345				5 36.6	-2 18.	5 40.4	-02 16	B1	4	
474	37904	1959		-2 1346			153-09AB	5 36.6	-2 57.	5 40.4	-02 55	B1	4	
475	37874			-4 1216				5 36.6	-4 3.	5 40.3	-04 01	C	4	
476	37888			-6 1286				5 36.6	-6 49.	5 40.2	-06 47	C	4	
477	37889			-7 1151				5 36.6	-6 59.	5 40.2	-06 57	C	4	
478	294303							5 36.7	-2 40.	5 40.5	-02 38	B1	4	
479	37887			-3 1173				5 36.7	-3 47.	5 40.4	-03 45	C	4	
480	294302							5 36.8	-2 36.	5 40.6	-02 34	B1	4	
481	37927			-2 1348				5 36.8	-2 51.	5 40.6	-02 49	B1	4	
482	37958			+2 1040				5 37.1	2 19.	5 41.0	+02 21	A	3	
483				-5 1365				5 37.2	-5 21.	5 40.9	-05 19	C	4	
484	38022			+5 998				5 37.6	5 12.	5 41.6	+05 14	A	3	
485	38023			-8 1199				5 37.6	-8 11.	5 41.2	-08 09	C	4	
486	38048			+0 1158				5 37.7	0 29.	5 41.6	+00 31	A	3	
487	38051			-4 1223				5 37.8	-4 41.	5 41.5	-04 39	C	4	
488	38052			-6 1291				5 37.9	-6 53.	5 41.5	-06 51	C	4	
489	38098			+5 1001				5 38.0	5 19.	5 42.0	+05 21	A	3	
490	38087		IC 435	-2 1350				5 38.0	-2 21.	5 41.8	-02 19	B1	4	
491	38088			-4 1224				5 38.1	-4 53.	5 41.8	-04 51	C	4	
492	38109			-5 1369				5 38.2	-5 51.	5 41.9	-05 49	C	4	
493	38120			-5 1370				5 38.3	-5 2.	5 42.0	-05 00	C	4	
494	38165			-1 1013				5 38.7	-0 59.	5 42.5	-00 57	B1	4	
495	38239			-6 1297				5 39.2	-6 47.	5 42.8	-06 45	C	4	

TABLE 1 (CONCLUDED)

WH	HD	HR	NAME	DM	P	BRUN	IDS	RA(1900)	DEC	RA(1975)	DEC	GR	C	N
496	38270			+3 1022			154-37AB	5 39.4	3 47.	5 43.4	+03 49	A	3	
497				-5 1377				5 39.4	-5 18.	5 43.1	-05 16	C	4	
498	38274			-6 1300				5 39.5	-6 40.	5 43.1	-06 38	C	4	
499	38311			-0 1073				5 39.7	-0 6.	5 43.5	-00 04	A	3	
500	38352			-2 1363				5 40.0	-2 33.	5 43.8	-02 31	B1	4	
501	38531			-4 1237				5 41.5	-4 3.	5 45.2	-04 01	C	4	
502	38563		M 78(A)	+0 1177			156-01C	5 41.6	0 2.	5 45.4	+00 04	A	3	
503	38563		M 78(B)	+0 1177			155-80AB	5 41.7	0 3.	5 45.5	+00 05	A	3	B
504	38650			+4 1038				5 42.2	4 4.	5 46.2	+04 06	A	3	
505	38662			+1 1131			A	5 42.3	1 25.	5 46.2	+01 27	A	3	A
506	38755			-6 1313				5 42.9	-6 29.	5 46.6	-06 27	C	4	
507	38771	2004	KAPPA ORI	-9 1235				5 43.0	-9 43.	5 46.6	-09 41			5
508	38800			-6 1314				5 43.2	-6 10.	5 46.9	-06 08	C	4	
509	38824			-8 1219			157-26A	5 43.4	-8 25.	5 47.0	-08 23	C	4	
510	38856			+0 1184				5 43.6	0 41.	5 47.5	+00 43	A	3	
511	38900			+4 1048				5 43.8	4 10.	5 47.8	+04 12	A	3	
512	38912			+1 1143				5 44.0	1 25.	5 47.9	+01 27	A	3	
513	38946			+4 1050				5 44.1	4 32.	5 48.1	+04 34	A	3	
514	39033			+0 1187				5 44.9	0 8.	5 48.7	+00 09	A	3	
515	39082			+4 1054				5 45.1	4 56.	5 49.1	+04 57	A	3	
516	39103			+1 1147				5 45.2	1 45.	5 49.1	+01 46	A	3	
517	39230			-6 1332				5 46.0	-6 15.	5 49.7	-06 14	C	4	
518	39254			-4 1259				5 46.2	-4 37.	5 49.9	-04 36	C	4	
519	39291	2031	55 ORI	-7 1187				5 46.6	-7 32.	5 50.2	-07 31	C	4	
520	39376			-7 1192			159-80A	5 47.1	-7 20.	5 50.7	-07 19	C	4	
521	39419			-6 1337				5 47.4	-6 52.	5 51.0	-06 51	C	4	
522	39540			-7 1198				5 48.2	-7 24.	5 51.8	-07 23	C	4	
523	39557			+0 1203				5 48.3	0 45.	5 52.2	+00 46	A		5
524	39572			+1 1155				5 48.4	1 43.	5 52.3	+01 44	A		5
525	39773			+5 1044			161-39AB	5 49.6	5 50.	5 53.6	+05 51	A		5
526	39777	2058		-4 1281				5 49.6	-4 5.	5 53.3	-04 04	C		5

NOTES TO TABLE 1

1. VISUAL BINARY NOT IN IDS CATALOGUE. SECONDARY EITHER NOT INCLUDED IN OBSERVATION OR TOO FAINT TO AFFECT MEASUREMENT.

2. VISUAL BINARY - A = NO. 260, B = NO. 268.

3. ECLIPSING BINARY THETA 1 ORIONIS D. THE LETTER DESIGNATIONS USED FOR THE TRAPEZIUM STARS ARE THOSE OF WALKER (1969) RATHER THAN THOSE OF THE ADS CATALOGUE - D = ADS B, C = ADS A, B = ADS D, A = ADS C.

4. STARS 388 AND 393 ARE BOTH VISUAL BINARIES, THE FORMER BEING LISTED AS ADS 4234AB AND THE LATTER AS ADS 4234CD.

5. LOCATED OUTSIDE CHART LIMITS.

6. STAR HAS TWO DM NUMBERS - BD-1 997, SD-2 1333.

7. STAR HAS TWO DM NUMBERS - BD-1 956, SD-2 1303.

8. VISUAL BINARY NOT IN IDS CATALOGUE - HAS TWO DM NUMBERS - BD-1 951, SD-2 1294.

9. STAR IS LABELED 36502 ON CHART 63 OF THE HDE BUT THIS IS INCORRECT. THE REAL HD 36502 IS ALSO LABELED ON CHART 63 AND IS ABOUT 1 DEGREE SOUTH. IT IS PROGRAM STAR NO. 145. ERROR IS UNFORTUNATE SINCE NO. 144 WAS PROBABLY NEVER NUMBERED OR CLASSIFIED FOR THE EXTENSION.

A. NORTH COMPONENT OF WIDE PAIR NOT LISTED IN IDS CATALOGUE. BOTH COMPONENTS ARE INCLUDED IN THE AGK3 CATALOGUE.

B. THIS IS THE NORTHERNMOST STAR IN M 78 = NGC 2068 AND IS DESIGNATED M 78(B) BY SHARPLESS (1952). ITS COMPANION IS ABOUT 1.5 MAG FAINTER AND IS LISTED BY THE IDS CATALOGUE AS AN F STAR.

TABLE 2

UBV AND SPECTRAL-TYPE DATA

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
1	6.045		-0.125	-0.545	3	3C	B5IV	2	
2	7.513	Y			1	(W)	B8	H	
3	7.657	Y			1	(W)	B9	H	
4	10.090		+0.210	+0.045	4	46	B9V	1	
5	8.310	Y			1	(W)	B9	H	
6	7.606	Y			1	(W)	B9	H	
7	8.882	Y			1	(W)	B9	H	
8	6.675	*	-0.072	-0.342	6	46FQ(DW)	B8V,B9VN	1,4	Y=3
9	8.895	Y			1	(W)	B8	H	
10	8.706	Y			1	(W)	B9	H	
11	8.767	Y			1	(W)	B8	H	
12	8.035		-0.053	-0.448	3	46	B8V	1	
13	7.887	Y			1	(W)	B8	H	
14	7.761	Y			2	(W)	B9	H	
15	6.413		-0.020	+0.002	6	46FQ	A0V,B8.5V	14,5	
16	8.705	Y			2	(W)	B9	H	
17	7.383		-0.127	-0.683	3	46	B5V	1	
18	6.334		-0.113	-0.755	8	346Q	B1.5V,B1.5VN	1,2	SB
19	8.41		-0.04	-0.36	2	9	B8	H	
20	6.591:		-0.094	-0.490	10	3469N	B5VP	2	NOTE
21	5.791		-0.129	-0.888	8	346C	B1V	2	
22	7.122		-0.102	-0.322	5	47	B9	H	
23	5.679		-0.130	-0.664	16	367PQ	B3V	12	
24	4.731		-0.172	-0.798	22	367DIP	B2IV,B2IV-V	1,2	VAR. RV
25	7.069		-0.039	-0.532	11	467	B3V	1	
26	7.18		-0.12	-0.66	4	G	B3V,B3VN,B3VNN	CQ,D,S	
27	4.997		-0.152	-0.872	21	369DIPQ	B1VN,B1V,B1IVNN	2,DQ,S	
28	8.358	*	-0.02	-0.26	2	9(W)	B9	H	Y=1
29	8.167	Y			1	(W)	B9	H	
30	8.35		-0.10	-0.36	2	9	B9	H	
31	7.988		-0.097	-0.492	6	469	B6V	1	
32	8.81		-0.02	-0.16	2	9	B8	H	
33	7.904		-0.140	-0.618	5	469	B9V,B3VW	1,E	NOTE
34	5.692		-0.216	-0.878	*	3467DIJSTVWX	B1V,B1.5V,B2V	1,2,5	NOTE
35	8.422	*	-0.09	-0.40	2	9(W)	B6-7IV-V	E	Y=1
36	6.321		-0.153	-0.639	11	3469E	B5V,B4IVN	1,2	NOTE
37	3.346:		-0.169	-0.924	20	3467IJK	B1V,B0.5VNN	1,2	VAR. V
38	4.945		-0.209	-0.916	21	3469DILP	B1VN,B1V:PE	2,5	NOTE
39	8.734	*	-0.06	-0.23	2	9(W)	B9	H	Y=2
40	6.94		-0.05	-0.49	4	7	B5-6VW	I	NOTE
41	7.432		-0.060	-0.416:	5	469	B8V	1	
42	7.350	*	-0.039	-0.540	9	467(NW)	B5V	1	Y=5
43	6.574		-0.047	-0.197	9	7FQ	B9 P HG-5I	4	NOTE
44	6.436		-0.170	-0.726	8	67	B3V	1T	
45	6.162		-0.187	-0.761	10	3469Q	B3V,B2.5V	1,2	SB

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
46	8.331	*	-0.09	-0.39	2	9(W)	B8	H	Y=1
47	8.331	*	+0.03	0.00	2	9(W)	B9	H	Y=1
48	6.522		-0.010	-0.225	6	469	B9V	1	
49	4.590		-0.214	-0.935	14	34DIP	B1V,B2IV	2,5	SB2:NOIE
50	8.52		-0.08	-0.32	2	9	B9	H	
51	7.196		-0.150	-0.686	5	469	B5IV,B3V:	E,F	
52	9.301	*	-0.01	-0.10	2	7(W)	A0	H	Y=3
53	6.744		-0.176	-0.750	5	469	B2V	1	
54	6.618		-0.171	-0.753	10	467	B2V	1	
55	9.794	*	+0.12	+0.05	2	7(W)	A0	H	Y=2
56	8.90		-0.05	-0.18	2	9	B9	H	
57	7.216		-0.147	-0.644	9	467	B3V,B5V	1,T	
58	9.220	*	+0.06	-0.09	2	7(W)	A0	H	Y=2
59	9.760	*	+0.11	+0.04	2	7(W)	A2	H	Y=2
60	7.698		-0.040	-0.357	6	469	B8V	1	
61	8.921	*	-0.01	-0.11	1	7(W)	A2,B9	H,)	Y=1
62	9.64		+0.32	+0.06	2	1	A9IV	B	
63	8.14		-0.07	-0.30	4	7	B9	H	
64	9.795	*	+0.15	+0.06	2	7(W)	A2	H	Y=3
65	7.806		-0.094	-0.496	5	469	B8V	1E	
66	7.820		-0.069	-0.475	8	467	B6V	I	
67	7.522		-0.136	-0.634	17	467	B5V	1	NOTE
68	9.668	*	+0.12	+0.04	2	1(W)	A0,A1	H,-	Y=2
69	6.398		-0.186	-0.756	9	3469E	B2V	12	
70	9.033		-0.027	-0.133	3	16	A0,B8-9	H,1	
71	7.576		-0.104	-0.550:	5	469	B6V	1	
72	8.343		-0.085	-0.408	4	79	B7IV:	E	
73	9.767	*	+0.11	+0.03	2	7(W)	A2	H	Y=3
74	8.366	*	+0.04	-0.09	2	7(W)	A0,B8	H,)	Y=2
75	8.85		-0.04	-0.22	2	9	B8	H	
76	6.67		-0.06	-0.24	3	7	B9	H	
77	8.830	*	+0.07	-0.27	2	7(W)	A0,B8	H,)	Y=1
78	7.336:	*	-0.115	-0.603:	4	469(W)	B5VNE	3	NOTE
79	6.902		-0.142	-0.638	5	469	B1.5V,B3V:N	1,F	NOTE
80	9.16		-0.04	-0.22	4	7	B8	H	
81	7.523	*	+0.26	+0.12	2	1(W)	A3	H	Y=1
82	9.024	*	+0.30	+0.03	2	1(W)	A0,A2	H,-	Y=1
83	8.885	*	+0.07	-0.01	1	7(W)	A0	H)	Y=3
84	8.07		-0.10	-0.56	4	7	B7V	I	
85	8.711	*	+0.14	+0.03	2	7(W)	A0	H	Y=1
86	8.68		-0.06	-0.23	4	7	B9	H	
87	6.388		-0.022	-0.090	6	7FQ	A0VN	4	
88	9.484	*	+0.15	-0.02	1	7(W)	A2	H)	Y=3
89	7.966		-0.042	-0.354	5	16	B9,B8	H,7	
90	8.214	Y			1	(W)	B8	H	

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
91	7.123		-0.119	-0.658	9	469	B2V;B5V	1,D	
92	8.884	*	-0.02	-0.19	2	7(W)	A0	H	Y=1
93	9.854	Y			1	(G)	G0,F5,F8	H,P,7	
94	11.619	*	+0.44	+0.31	2	1(G)	A1	P	Y=1
95	9.593	Y			1	(G)	G5,F9,F8	H,P,7	
96	7.974	*	+0.10	+0.02	1	7(W)	A0	H)	Y=1
97	6.881	*	-0.01	+0.03	1	7(W)	A0,B8	H,)	Y=1
98	11.209	Y			1	(G)	A5,A2,A3	H,P,-	
99	6.683		-0.117	-0.583	3	16	B5V	1	
100	8.142	*	-0.11	-0.47	1	9(W)	B7V	E	Y=1
101	5.776		-0.205	-0.849	11	3469C	B1.5V;B2V	1,2	
102	8.674	*	-0.05	-0.29	2	7(W)	A0	H)	Y=1
103	7.650		-0.066	-0.343	8	467	B9,B7	H,Z	
104	10.258	Y			1	(G)	F0,A8	H,P-	
105	9.509	Y			1	(G)	F8,F3,G0,F5	H,P,7,-	
106	9.183	Y	+0.15	+0.05	2	1(MW)	A3VS	8	NOTE
107	9.000	*	-0.05	-0.29	2	7(W)	A0,B9	H,Z)	NOTE
108	9.467	*	+0.03	-0.14	2	7(W)	B9,A0	H,)	Y=3
109	8.646		-0.064	-0.378	5	16	A0,B8-9,B8	H,1,7	
110	9.453	Y			1	(G)	F8,F9	P,-	
111	4.199		-0.145	-0.552	18	36DIMP	B5V,B5IV,B3V	12,5,5	
112	9.288	*	+0.04	-0.05	2	7(W)	A0,B9	H,Z)	Y=2
113	6.329		-0.198	-0.838	8	136Q	B1.5V,B4IV-V	1,2	
114	7.943	*	-0.02	-0.48	1	9(W)	B6V	E	Y=1
115	8.14		-0.07	-0.36	4	7	B8	H	
116	9.928	*	+0.10	-0.47	1	7(W)	A2,A1,B9	H,Z,)	Y=3,NOTE
117	8.21		-0.07	-0.40	4	7	B9P(SI)	P	NOTE
118	8.35		-0.04	-0.39	4	7	B9	H	
119	9.023		+0.065	+0.07	4	16	A0	H17	
120	7.976	*	-0.17	-0.81	1	9(W)	B2V	U	Y=1
121	9.20		+0.02	-0.05	4	7	B9	H	
122	7.531	*	+0.14	+0.10	2	1(W)	A2,A0	H,-	Y=1
123	5.456		-0.186	-0.832	9	3469JQ	B1,5V	12	
124	10.315		+0.210	+0.125	4	16	A2VN	8	
125	10.818	*	+0.52	+0.35	2	1(G)	A2,A1,B8	H,P,7	Y=1
126	9.526	Y			1	(G)	G0,F6,F3	H,P,-	
127	9.510	Y			1	(G)	G5,F8,F5	H,P,7	
128	8.18		+0.05	-0.04	3	6	B9	H	NOTE
129	9.267	*	+0.12	-0.02	2	7(W)	A0,B9	H,)	Y=1
130	7.540		-0.130	-0.642	6	469	B3V	1	
131	10.216	Y			1	(W)	A0,A1	H,)	
132	8.48		-0.10	-0.49	4	7	B8,B9	H,Z	NOTE
133	10.787	*	+0.41	-0.01	2	1(G)	A5,A8	P,-	Y=1
134	9.710		+0.092	+0.058	5	16	A0,B8-9,B8	H,1,7	
135	9.466		+0.732	+0.528	5	16	F8	H	NOTE,EB

TABLE 2 (CONTINUED)

WH	<V>	<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
136	7.560	-0.122	-0.632	5	46	B5V	1	
137	6.223	-0.180	-0.746	7	136E	B2V	12	
138	8.98	-0.03	-0.24	3	7	B9V	*	
139	8.683 Y			1	(W)	B9	H	
140	6.856	-0.160	-0.706	8	37G	B2IV-V,B2V	2,DQ	NOTE;SB
141	2.225	-0.218	-1.057	*	367GIKP	O9.5II;O9.5II-III	1DKOQ;2	EB;NOTE
142	10.248 *	+0.21	+0.09	2	1(MW)	A8IV;A3	8,-	NOTE
143	7.788	-0.110	-0.525	4	17	B5V	5	
144	8.435 Y			1	(W)	B9		NOTE
145	9.23	-0.02	-0.16	3	7	B9.5V	*	
146	9.493	+0.023	-0.080	4	16	A0;B8-9	H,1	
147	4.614	-0.259	-1.076	74	134DIJKOVW	B0V	12X	UBV STD
148	8.31	-0.11	-0.60	3	7	B9P SI-5R;B6-7IV-VW	3,I	NOTE
149	9.91 :*	+0.32	+0.06	2	1(M)	A6M	8	NOTE
150	9.487	+0.147	+0.109	3	16	A1VN	8	
151	8.160:*	+0.050	-0.476	5	126(HW)	B7III:	V	NOTE
152	9.346 *	+0.02	-0.06	3	6(W)	A0;B8-9	H,1	Y=1
153	7.677	-0.093	-0.443	3	16	B8V;B6V	V,5	
154	10.423:*	+0.38	+0.09	2	1(G)	A5	P-	Y=1
155	8.260	-0.083	-0.390	3	16	A0;B8-9	H,1	
156	8.568 *	-0.08	-0.40	1	9(W)	B6VWP	E	HE WK;Y=1
157	8.811	-0.036	-0.218	8	126	B9;B8	H,7	
158	9.459 Y			1	(G)	F2	P-	
159	5.343	-0.193	-0.937	35	1346DIOV	B1V;B1IV;B1.5III	15;2;3B	UBV STD
160	9.05	-0.01	-0.20	3	7	B8V	*	
161	9.354 *	-0.02	-0.18	3	7(W)	B9V	*	Y=2
162	11.312 Y			1	(G)	A3;A0	H,P-	
163	7.96	+0.08	-0.20	3	7	B8V	*	
164	8.439 *	-0.01	-0.09	3	7(W)	B9.5V	*	Y=2
165	8.755	+0.170	+0.125	4	12	A4VN	8	
166	9.203	-0.033	-0.154	3	16	A0;B8-9;B9	H,1,7	
167	7.576	-0.108	-0.544	5	469	B6V	1	
168	10.036	+0.282	+0.078	8	16Y	A8V	8	
169	9.53 Y			1	(M)	B9V	8	
170	7.98	-0.04	-0.24	4	7	B9V;B9.5V	8,*	
171	7.661	+0.015	-0.655	17	1260Y	B2V	1	NOTE
172	8.850 Y	+0.17	+0.07	1	1(MW)	F8IV-V	8	NOTE
173	6.541	-0.112	-0.648	11	1367	B3V;B2.5V;B4VN	I,3B,2	
174	9.305:*	+0.28	+0.16	2	1(H)	A5	H	Y=3
175	8.639 *	-0.01	-0.16	1	9(W)	B9	H	Y=2
176	8.066	-0.116	-0.456	5	79	B6VWP	E	NOTE
177	8.611	-0.042	-0.250	10	126	B9;B8	H,6P	
178	10.644 *	+0.45	+0.04	2	2(H)	F2,F3	P,-	Y=3
179	8.648	0.000	-0.132	5	17	B9V;A0V	*,1	
180	8.709:*	+0.327	+0.103:	6	12(HW)	A0P;A2M	6,8	NOTE

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
181	10.208		+0.446	+0.047	5	2Y	F6IV	8	NOTE
182	8.947		+0.008	-0.054	7	126Y	A0,B8-9	H,1	
183	10.942	*	+0.60	-0.05	2	2(H)	G0	P-	Y=3
184	5.345		-0.186	-0.914	*	1367I	B1V,B1.5III	15,38	NOTE
185	11.470		+0.518	+0.007	4	2Y	F8	P	
186	9.800		+0.150	+0.090	4	12	A3VN	8	
187	8.640		+0.068	-0.040	4	16	A0,B8-9	H,1	
188	9.086	*	+0.24	+0.12	2	1(H)	A0	H)	Y=3
189	10.180	*	+0.11	+0.09	2	1(H)	A2VN	*	Y=3
190	11.386		+0.700	+0.413	8	16Y	A0	P	
191	10.680	*	+0.66	+0.18	3	2(H)	G1,G2	P,7	Y=3
192	9.646	Y			1	(G)	F8,F5	H,P-	
193	6.588		-0.185	-0.800	10	3469E	B2V	12	
194	8.839	*	+0.08	+0.06	2	1(H)	A0V	*	Y=3
195	10.399	*	+0.57	+0.09	2	2(H)	F8	HP-	Y=3
196	9.682	*	+0.41	+0.04	2	2(HMW)	F1IV,F2IV-V	8,A	NOTE
197	8.517		+0.007	-0.413	9	167	B6V,B5IV-V,B5V	3,I,*	NOTE
198	10.740	:*	+0.426	+0.056	8	2Y(H)	F3IV	6	NOTE
199	8.53		-0.10	-0.44	1	9	B8	H	
200	9.56	:*	+0.12	-0.22	2	7(W)	A2,B9	H,)	NOTE
201	7.630		-0.100	-0.435	4	17	B7V	3,*	
202	6.226		-0.176	-0.819	14	13670	B3V,B2V,B2.5V	1,5,38	
203	10.12	:*	+0.17	+0.09	2	1(W)	A0,A1	H,)	NOTE
204	8.805	*	+0.49	+0.01	2	2(HMW)	F7IV,F6V	6,8	Y=8
205	10.120	*	+0.41	+0.23	4	2(HM)	A3M	8	Y=5
206	9.496	*	+0.01	-0.11	1	1(W)	A0,B8-9,B8	H,1,7	Y=2
207	9.971	Y			1	(G)	F2,F0	P,7	
208	7.077		+0.173	+0.111	7	167	A1M,A3V	B,M*	
209	8.63		-0.03	-0.18	1	9	B9	H	
210	8.22		0.00	-0.51	4	7	B5VN,B5-6VN	3*,I	
211	6.69		-0.17	-0.74	5	7	B5	H	
212	11.700	*	+0.62	+0.08	2	2(H)	F8,G0	P,-	Y=2
213	8.655		+0.035	-0.125	4	17	A0V	1*	
214	10.193		+0.267	+0.097	3	16	A3VN	8	
215	10.613	*	+0.487	+0.040	3	25(HW)	F7IV	A	NOTE
216	10.310	Y			2	(W)	F8III-IV	A	
217	10.232	:*	+0.565:	+0.053:	9	25Y(HM)	F7IV,F6IV-V	8,A	NOTE
218	8.553	*	+0.07	-0.23	2	1(W)	B9,B8	H,7	Y=1
219	6.703		-0.143	-0.713	3	46	B3V	1	
220	9.825	Y			1	(G)	A5	P	
221	8.600		+0.030	-0.357	6	167	B7V,B6VN	1,*	
222	9.806	*	+0.09	+0.01	2	1(H)	B8,A1V	H,*	Y=3
223	8.284		+0.274	+0.192	5	16	A0,A1,A<	H,Z,)	
224	8.133		-0.093	-0.483	9	1268	B7V,B6V,B7-8V	3,6J,V	
225	6.818		+0.204	+0.128	5	12	A7IV-V,A3	6,H-	

TABLE 2 (CONTINUED)

WH	<V>	<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
226	10.920	+0.670	+0.15	4	5A	(G)	7	NOTE
227	7.427	-0.066	-0.405	11	1268	B8V	36JV	
228	10.261	+0.268	+0.143:	9	126A	A8VN,A7V	8,A	NOTE
229	9.288	+0.142	+0.122:	5	12	A2V	A	NOTE
230	10.536:*	+0.24	+0.10	4	2(HW)	A3	P	NOTE
231	9.287	-0.007	-0.147	3	16	A0,B8-9	H,1	
232	9.617	+0.576	+0.129	7	28	F9V	J	
233	10.727	+0.699	+0.290	7	12A	B8:,A0	6,P-	
234	8.311 Y			1	(W)	B8	H	
235	9.551 *	+0.21	+0.02	2	7(W)	A5,A2	H,)	Y=3
236	7.253	-0.077	-0.458	10	1268	B5V,B6V,B7IV	3,6J,V	
237	9.593:*	+0.144	-0.006:	13	126AY(HW)	B9V,B9-A0VP	V,9A	NOTE
238	11.077:	+0.483	-0.093:	3	5A	F0-2III-V	V	
239	10.268	+0.540	-0.036	24	28Y	F8V	J	
240	7.086:	-0.078	-0.431	9	167	B6V,B7V	1,P	NOTE
241	8.015	-0.010	-0.345	4	17	B8V,B9V	1,8W,P	
242	10.260:	+0.623:	+0.567:	3	5A	A6-7V,A2	9A,H	NOTE
243	7.986:*	+0.156	+0.052:	11	1256A(HW)	A0V	6A	NOTE
244	11.227	+0.668	+0.150	11	28Y	G2IV	J	
245	9.316	0.000	-0.062	5	28	B9V	J	
246	8.366	-0.010	-0.496	5	28	B8III	J	NOTE
247	9.459 *	+0.13	+0.01	2	1(H)	A2,A1,A0	H,Z,)	Y=3
248	6.745	-0.130	-0.543:	4	16	B8III:P	V	NOTE
249	7.569	-0.124	-0.565	15	1268Y	B5V	36J	SB
250	9.804	+0.474	+0.030	8	28Y	F7IV,F6V	8,J	
251	8.873 *	+0.067	-0.180	6	126Y(HW)	B8	H7	NOTE
252	8.997	-0.023	-0.260	8	1256A	B9V	6AV	
253	11.494	+0.500	-0.018	5	28	F5V	J	
254	10.72 :*	+0.694:	+0.070	5	28(H)	G0IV	J	NOTE
255	7.515	-0.125	-0.558	4	17	B7V,B6VN,B5VN	3,I,P	
256	6.966 *	-0.105	-0.650	8	167(HW)	B3V	138W	SB,NOTE
257	9.444 *	+0.10	-0.04	2	1(HW)	A P CR-EU-(SR)	8	Y=4
258	8.851	+0.050	-0.020	10	1268	A1V	J	
259	9.641	+0.268	+0.090	8	128	A7V,A5VN	J,8	
260	7.339	-0.087	-0.606	7	126	B3V,B2IV	5,3	
261	10.916	+0.439	+0.343	7	126	A0,A2	6P,-	
262	10.464	+0.559	+0.257	7	126	B9	6P-	
263	10.166	+0.150	0.000:	8	25AY	A0V	9A	NOTE
264	8.800	-0.067	-0.263	6	28	B9V	J	NOTE
265	5.678	-0.221	-0.913	19	1268DG	B1V	12JQ	
266	4.782	-0.247	-1.019	25	1268DGI	B0V,B0.5V,B0.5VE	1,26JQX,M	NOTE
267	8.987:*	+0.04	-0.09	2	1(H)	A0IV,A0V,B9.5V	B,W,P	Y=3
268	11.069 *			1	Y(H)			Y=1
269	7.830	-0.121	-0.574	39	1256AY	B1.5V,B5V,B3-5V	1,3,A	
270	8.448	+0.105	-0.611	13	126A	B1.5VP	I	NOTE

TABLE 2 (CONTINUED)

WH	<V>	<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
271	9.195 #	-0.023	-0.181	9	1268(HW)	B9.5V	6J	NOTE
272	10.502 #	+0.545	+0.035	6	28(HW)	F6V	J	NOTE
273	8.883	-0.045	-0.263	4	16	A0,B8-9,B8	H,1,7	
274	8.334 #	-0.05	-0.22	1	7(W)	A0,B9	H,)	Y=1
275	9.872	+0.138	+0.072	5	16	A4VN	8	
276	8.991	-0.016	-0.191	8	1268	B9V	J	
277	9.924	+0.321	-0.424	11	126Y	B3VN	8	
278	7.950	+0.223	-0.490	*	128	B0V	U	NOTE
279	6.729	+0.015	-0.873	8	126IO	B0.5VP,U8VN	C,U	EB;NOTE
280	5.132	+0.008	-0.955	14	126IO	O6EP,O7V	2,L	NOTE
281	8.480:	-0.108	-0.436	10	1268	B7V	6J	NOTE
282	7.452	-0.139	-0.661	30	1268	B3V,B5V	6J,5	SB
283	7.165:*	-0.128	-0.622	9	1268(HW)	B3V	6J	NOTE
284	6.243	-0.156	-0.706	24	1268C	B3V,B2IV,B2.5V	1,3,26J	
285	6.553	-0.138	-0.766	13	1268C	B1.5V,B2[illegible]V,B2VP	12,3,J	SB,NOTE
286	9.804 *	+0.21	-0.10	4	2(H)	A0	P-	Y=3
287	10.092 #	+0.33	+0.16	2	2(H)	A0	P-	NOTE,Y=3
288	9.354	+0.032	-0.024:	8	126AY	A0IV,A0-1V	6,9A	NOTE
289	9.870	+0.715	+0.185	4	2A	F8-G0II:-IV,V	A	
290	10.913	+1.074	+0.576	9	25AY	G0-2III	56	NOTE
291	9.660:	+0.287	-0.372:	7	13Y	B8IV-V,B8VP	5,9A	NOTE
292	6.692	+0.086	-0.817	15	126IO	B0.5VP	5C	NOTE
293	8.500	+0.003	-0.277	3	79	B9V	*	
294	9.562:*	+0.15	-0.02	2	1(H)	A1V,A2V	B,*	Y=3
295	4.586	-0.196	-0.936	18	126DI	B1V,B2I:J	2,5	SB
296	5.064	-0.086	-0.942	18	1256AGIO	O9V,O9.5V,O9.5VEP	19AK,NQ,2	SB
297	6.401	-0.094	-0.923	18	1256AGO	B1V,B0.5V,B0.5VP	19A,NQ,C	
298	9.545:*	+0.050	+0.023	4	25(HW)	A0V	69A	NOTE
299	9.780	+0.173	+0.124	6	128	B7III,A6VN	J,8	
300	9.740	+0.390	+0.045:	4	12	F2IV	8J	
301	2.768	-0.241	-1.072	43	12468DHIKOTVW	O9III,O8.5III	12DJOXY,K	SB,UBV ST
302	6.409	-0.131	-0.642	14	1367Q	B3V,B3IV	1,2	
303	6.313	-0.140	-0.712	11	1268E	B2IV,B3V+B7V,B2.5V	3,0,J	
304	7.322	-0.148	-0.769	7	126	B2VP	1	NOTE
305	9.078	-0.017	-0.237	6	126	B8	V7-	
306	9.351	+0.013	-0.053	7	126A	A0V	9A	NOTE
307	6.825	+0.265	-0.654	11	1256AO	B1V,B0.5V	1A,3	
308	8.224:*	+0.038	-0.485	14	1256AY(HW)	B5V,B3-4V	1,9A	NOTE
309	9.908:*	+0.466	+0.179	9	1256A(MW)	F2III-IV	8	NOTE
310	8.064:*	-0.080	-0.410	4	17(W)	B8V,B9V	3,*	A;NOTE
311	8.954 Y			1	(W)	A2:,B9,5V	H,*	B
312	8.374	-0.068	-0.378	11	167	B8	H	
313	9.290	+0.013	-0.110	4	16	A0,B8-9	H,1	
314	5.256	+0.259	+0.167	7	2IQU	G F0		
315	9.876	+0.068	+0.049	9	1256A	A0V	9A	NOTE

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
316	9.416	*	+0.107	+0.129:	10	1268(HW)	A2V	J	NOTE,Y=5
317	8.990		+0.435	-0.055	6	28	F5V	J	
318	8.650		+0.035	-0.140	4	17	B9V,B9,5'',A0V	1W,B,*	
319	11.038		+0.656	+0.142	4	2Y	F2,F8	H,P=	
320	10.305:	*	+0.435:	+0.455:	6	25(HW)	B8-A3VP,A3V E	A,5	NOTE
321	11.297	*	+0.63	-0.16	2	2(H)	B4V	*	NOTE,Y=3
322	9.804	*	+0.14	+0.08	2	1(MW)	A3V	8	NOTE
323	8.810	*	+0.04	0.00	2	1(H)	A1V	*	Y=1
324	8.020		-0.085	-0.505	4	17	B6V,B7V	3BI*,W	
325	11.379		+0.595	+0.076	6	2Y	F8	P=	
326	9.023		-0.010	-0.133	6	125A	B8V,B9V	1,9A	NOTE
327	7.082		-0.072	-0.550	9	125L	B5NE,B6V,B4VE(DELTA)	69A,1,7	NOTE
328	1.691		-0.181	-1.032	40	13468DIKTVW	B0IA	12XY	UBV STD
329	9.970		+0.145	-0.101	11	126Y	A,B8-9,B8	H,1,V	
330	10.462		+0.421	+0.009	7	2Y	A7,F0	H,P=	
331	8.32		-0.02	-0.44	2	1	B9	H	NOTE
332	8.55:		+0.094	-0.413	7	167	B8P,B9,B1V-V,B8III	3B,I,*	NOTE
333	10.006	*	+0.20	+0.08	2	1(H)	B9,A0,A5V	H,Z,*	Y=3
334	8.035		-0.010	-0.505	4	17	B8V,B7V,B6VNN	3BI,W,*	
335	7.147		-0.157	-0.712	14	1268Y	B2VP,B2V	1,J	NOTE
336	10.427	Y			1	(G)	F0,F2	P,7	
337	10.354	Y			1	(G)	F3,F4	P,7	
338	9.383	*	+0.48	-0.01	2	2(HW)	F4IV	A	Y=4
339	6.564	*	-0.185	-0.803	11	123Q(HW)	B3V,B3IV,B2V	1,2,7	Y=5
340	7.388:	*	-0.08	-0.40	1	1(W)	B8V	1	Y=2
341	7.86		-0.06	-0.55	2	7	B6V,B5V	3*,I*	
342	8.135		-0.010	-0.245	8	17	B9V	1*	
343	8.296	*	+0.12	+0.04	2	1(H)	A3V	*	Y=3
344	9.208:		-0.015	-0.118	4	12	B9V	9A	NOTE
345	8.644		+0.294	+0.114	5	12	F1IV	8	
346	8.125	*	-0.07	-0.41	1	1(W)	B9IV-VP	V	NOTE
347	9.194		+0.280	+0.096	5	12	A7VN	8	
348	10.715		+0.270	+0.085	4	12	A4,A5	P,7=	
349	10.656	*	+0.71	-0.04	3	2(H)	A5,B5:	P,6	NOTE,Y=3
350	5.724		-0.220	-0.912	10	1236C	B1V,B2IV	5,2	
351	10.274	Y			1	(G)	A8,F0	P,7	
352	9.680		-0.005:	-0.095	4	16	A0:,B8-9	H,1	NOTE
353	7.744	*	+0.02	-0.26	1	9(W)	B9	H	Y=1
354	8.170		-0.100	-0.460	4	17	B8V,B7V-A0V,B7V	3BW,I,*	NOTE
355	10.173	*	+0.15	+0.09	2	1(H)	A2,A0	H,)	Y=3
356	9.585	*	+0.52	+0.01	4	2(HW)	F8	P	Y=6
357	9.625:	*	+0.126	+0.035	8	16Y(HM)	A2V	8	NOTE
358	7.910		-0.110	-0.560	4	17	B5V,B6VE	3*,I	NOTE
359	10.878	Y			3	(J)	G0	H	
360	10.774:	*	+0.887	+0.418	6	2Y(H)	G0,G2	P,=	NOTE

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
361	8.976	*	+0.12	+0.04	2	1(HW)	A1III-IV,A2V	B,P	Y=4
362	9.924		+0.152	+0.048	5	16	A2,B8-9	H,1	
363	11.307		+0.372	+0.180	5	2Y	A3,A5	P,7	
364	10.66		+0.39	+0.42	3	*	A1E,A5EII-III	P,5	NOTE
365	10.962	*	+0.30	+0.16	2	1(G)	F0,A5,Ae	H,P,-	Y=1
366	12.054	Y			1	(G)	A0	P	
367	11.290		+0.653	+0.241	4	2Y	A0	P-	
368	11.17	:*	+0.43	-0.02	2	2(H)	F3,F4	P,-	NOTE
369	11.971		+1.077	+0.764	5	2Y	A7:	6	
370	10.787	*	+0.39	-0.03	4	2(H)	F0,F2	P,-	Y=3
371	10.675	Y			1	(G)	F5	P-	
372	7.113		-0.085	-0.538	8	167	B3V,B4V	1W,3B	NOTE
373	9.411	*	+0.09	+0.01	2	7(W)	A1V	+	Y=3
374	6.048		-0.218	-0.935	11	1236Q	B1V,B1.5V,B2V	1,2,6	
375	10.16	:*	+0.17	+0.14	2	1(MW)	A3V	8	NOTE
376	8.526	*	+0.06	-0.06	2	7(HW)	A0V	+P	Y=4
377	8.010		-0.133	-0.563	3	479	B5V,B8V:(E)NN	11,5	
378	7.470		-0.110	-0.540	6	679	B6V,B5V	1,5	
379	7.608		-0.132	-0.600	5	17	B5V,B5IV-V	3BW,I	NOTE
380	9.800		+0.070	+0.017	3	16	A0,B8-9	H,1	
381	7.167	:*	-0.163	-0.757	3	12(HW)	B1.5V	U	NOTE
382	9.942	*	+0.65	+0.11	3	2(H)	G0,G8	H,P-	Y=3
383	8.749	*	-0.03	-0.17	2	1(W)	B8V,B9V	3,P	Y=1
384	10.518	*	+0.36	+0.04	2	1(G)	A3,A5	P,-	Y=1
385	10.682	Y			4	(J)	G0	H	
386	10.87		+0.30	+0.25	3	6	A2,A5	P,-	
387	9.502	*	+0.31	+0.05	2	1(W)	A8V	8	Y=2
388	7.460		-0.040	-0.440	4	17	B6V	3IP	
389	10.508	Y			1	(G)	A,A0	H,P-	
390	6.200		-0.043	-0.728	6	13Q	B1.5V,B2IV-V,B2IV	1,2,3	
391	8.865		+0.098	+0.063	4	16	A0,B8-9	H,1	NOTE
392	8.320		-0.103	-0.377	3	16	B9	H7	NOTE
393	7.948	*	+0.10	-0.15	2	7(W)	A0V+A1III	P	Y=2
394	9.857	*	+0.20	+0.10	2	1(H)	A3,A2,A5III	H,),P	Y=3
395	9.421	:*	+0.155	-0.060	4	16(W)	A0,B8-9	H,1	NOTE
396	8.360	Y			2	(W)	F6,F9	P,-	
397	6.844		-0.157	-0.743	7	17	B3V,B2V	1W,3B	
398	11.829	:*	+0.79	+0.56	2	1(G)	A1	P	Y=1
399	9.790		+0.088	+0.026	4	16	A0,A1	H,-	
400	6.856	*	+0.12	+0.07	2	1(W)	A2,A1	H,P	Y=1
401	11.440		+0.900	+0.33	4	16	B9	P-	
402	9.790		+0.130	+0.118	4	16	B9V	8	NOTE
403	9.615	Y	+0.23	+0.11	2	1(MW)	A6VN	8	NOTE
404	8.620		-0.030	-0.330	4	17	B8V	3P	
405	10.682	Y			3	(J)	A3	H	

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
406	8.678	*	+0.118	-0.174	5	16(W)	A0,B8-9	H,1	NOTE
407	7.912	*	-0.11	-0.56	2	7(JW)	B5V	3+	Y=4
408	7.847	Y			3	(J)	B8V	+	
409	10.670	*	+0.35	-0.03	2	1(G)	F0,A8	H,P-	Y=1
410	7.650	*	+0.33	+0.17	2	1(W)	A2,A4,A5	H,P,-	Y=2
411	9.566	*	+0.16	+0.07	2	1(W)	A3V	8	Y=2
412	10.25	:*	+0.300	-0.025	8	16(W)	B8-9,B9	1,7	NOTE
413	7.895	*	-0.10	-0.41	1	9(W)	B7IV-V	E	Y=1
414	6.680	:	-0.180	-0.848	5	37	B2VP,B0.5V	3+,U	NOTE
415	3.801	:	-0.240	-1.029	18	367DI	O9.5V	12KY+	VAR. V:SB
416	9.620		+0.198	+0.030	4	16	A0,B8-9,B9	H,1,P7	
417	8.235		+0.030	-0.240	4	16	B8P (SI)	3	
418	10.555	Y			1	(G)	F5	P-	
419	5.959		-0.239	-0.920	8	1C	B1V,B1.5IV	1,2	(VAR. RV)
420	10.363	Y			1	(G)	A8	P-	
421	4.542	:	-0.101	-0.787:	20	3469DILP	B2IIIE,B3IIIE,B2IVE	2,M,3	VAR. UBV
422	9.206	*	+0.01	-0.06	1	1(W)	A0,B8-9,B9	H,1,P7	Y=1
423	7.087	Y			1	(W)	B9	H	
424	8.745	*	-0.04	-0.23	2	7(W)	B9V,B9.5V	+,P	Y=2
425	8.079	*	-0.09	-0.60	2	7(W)	B5V,B6V	3I,+	Y=1,NOTE
426	9.305	*	-0.02	-0.15	2	7(JW)	B9.5V	+	Y=5
427	7.607		-0.127	-0.547	6	16	B3V	1	
428	9.297	:*	-0.023	-0.085	6	16(W)	A0,B9	H,P-	NOTE
429	8.678	*	+0.15	+0.09	1	1(W)	A0V	8	Y=1
430	8.488	Y			3	(J)	A0,A1:A5:III:	H,Z,+	NOTE
431	10.447	*	+0.630	+0.428	5	16(W)	A8	P	Y=2
432	10.604	*	+0.34	+0.14	2	1(W)	B8,B9,A5	H,Z,)	Y=1
433	8.008	*	-0.07	-0.29	1	9(W)	B9	H	Y=1
434	9.280		+0.057	-0.047	4	17	B9,A3:V,A0V	H,1,P	
435	8.351	*	-0.06	-0.30	1	7(W)	A0	H	Y=1
436	6.905		-0.085	-0.350	2	49	B8V	1	
437	11.477	:Y			3	(J)	F2	H-	
438	9.032	:*	+0.03	-0.36	3	7(JW)	B9.5P EU,SI	+	NOTE
439	10.499	Y			1	(G)	F3,F4	P,-	
440	6.495		-0.118	-0.500	4	3E	B7V	2	
441	7.566		-0.060	-0.380	7	17	B7V,B6V	3+,P	
442	10.804	:Y			2	(J)	G0,G3	H,-	
443	8.060		-0.136	-0.590:	5	67	B9VP(SI)	I	NOTE
444	9.176	*	-0.02	-0.09	1	1(W)	A0,B8-9	H,1	Y=3
445	10.389	:*	+0.394	+0.302	5	16(W)	A2,A1	H,Z)	NOTE
446	7.675		-0.080	-0.613:	4	17	B3VN,B3-5VN,B5:VN	3,I,P	NOTE
447	9.228	*	+0.02	-0.09	2	7(JW)	B9VN	+	Y=4
448	10.436	Y			4	(J)	F8,G0	H,-	
449	10.998	*	+0.51	+0.20	2	1(W)	B8,A0	H,)	Y=1
450	7.625	*	-0.13	-0.69	2	7(JW)	B4V	+	Y=4

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
451	10.441	*	+0.71	+0.50	2	1(G)	A2,A5	P,-	Y=1
452	10.632	*	+0.21	+0.06	2	1(H)	A0	H)	Y=3
453	11.060	Y			4	(J)	A5,F3:	H,-	
454	7.042	*	+0.03	-0.44	2	7(W)	B6V:	I	Y=1
455	10.116	Y			4	(J)	G0	H-	
456	8.006:	*	-0.100	-0.470	4	16(W)	B5V,B6V	R,V	NOTE
457	10.138		+0.582	+0.116	5	16	B8,A0	H,)	
458	6.217		-0.212	-0.906	10	347Q	B1V,B1.5V	1,2+	
459	10.255:	*	+0.15	+0.07	2	1(M)	A2V	8	NOTE
460	1.758		-0.208	-1.062	30	156DHIKLR	O9.5IB+B0III,O9.7IB	D,0	VAR. RV
461	9.190	*	+0.02	-0.07	1	1(W)	A0,B8-9	H,1	Y=2
462	12.01					Z	A0	P	
463	4.933		-0.216	-0.846	13	137D	B3III,B2IV-V,B3V	R,2,1+	SB2
464	8.796	*	+0.10	+0.09	2	1(H)	A3V	A	Y=3
465	6.983		-0.147	-0.860	6	17	B2V,B4V	R,1	
466	10.043	Y			5	(JW)	B8VE	+	NOTE
467	10.10		+0.35	+0.15	2	1	A7V	8	
468	7.533	Y			4	(JW)	A5	H-	
469	7.955:	*	+0.03	-0.26	2	7(JW)	B9PE	+	NOTE
470	9.362	Y			3	(W)	G0	H-	
471	7.908		-0.107	-0.632	6	167	B2V	1	NOTE
472	9.002	*	-0.04	-0.34	2	7(JW)	B9V	+	Y=4
473	7.833	*	+0.105	-0.624	12	467Q(JHW)	B1.5V,B2V	1+,RZ	NOTE
474	6.430		+0.303	+0.070	4	Q	F0,A7IV:	H,+	NOTE
475	9.669	*	+0.32	+0.14	2	1(M)	A1M	8	Y=5
476	9.210		+0.030	-0.030	3	16	A0,B8-9	H,1	
477	7.670		-0.125	-0.685	4	16	B2V	1	
478	11.028	Y			4	(J)	F8,F2	H,-	
479	7.712	*	-0.01	-0.11	2	1(W)	A0V	1	Y=1
480	11.452	Y			4	(J)	F8	H	
481	8.440	*	-0.08	-0.46	2	7(JW)	B6V	I+	Y=4
482	6.674	*	-0.08	-0.24	1	9(W)	B8	H	Y=1
483	10.12		+0.26	+0.11	2	1	A5M	8	
484	8.151	Y			2	(W)	B9	H	
485	8.843	Y			2	(W)	B9,B8	H,-	
486	9.290		+0.130	-0.013	3	79	B9	H	
487	8.490		+0.356	-0.302	5	16	B3,B8	C,H	
488	9.550	*	+0.24	+0.12	1	1(MW)	A7VS	8	Y=5
489	6.748	Y			1	(W)	B8	H	
490	8.292	*	+0.118	-0.456	5	67(JW)	B5V	3+	NOTE,Y=4
491	9.683		+0.160	+0.069	4	16	A0V	8	
492	9.455	*	+0.34	+0.14	2	1(MW)	F2IVS	8	Y=5
493	9.067		+0.033	-0.067	3	16	A0,B8-9	H,1	
494	8.809:	*	+0.245	-0.230:	4	67(HW)	B7IV-V	I	NOTE
495	9.220		+0.047	+0.010	3	16	A0	H1	

TABLE 2 (CONTINUED)

WH	<V>		<B-V>	<U-B>	N	REFERENCES	SPECTRAL TYPE(S)	REFERENCES	REMARKS
496	7.532	*	+0.02	-0.15	1	9(W)	B9	H	Y=1
497	9.784	*	+0.448	+0.340	5	16(MW)	A4II-III	8	NOTE,Y=6
498	10.235	*	+0.31	+0.05	2	1(MW)	A8VS	8	Y=4
499	8.714	*	+0.05	-0.04	1	7(W)	A0	H	NOTE,Y=1
500	9.158	*	+0.09	-0.01	2	7(W)	A0	H	Y=2
501	8.126	Y			1	(W)	B9	H	
502	10.432		+0.587	-0.063	6	46	B5	1	NOTE
503	10.588:		+1.155	+0.385	6	46	B1V,B2II-III	1,*	NOTE
504	7.661	Y			1	(W)	B9	H	
505	9.352	Y			1	(W)	B9	H	
506	7.692	*	-0.11	-0.52	1	4(W)	B6V,B5V	1,R	Y=1
507	2.069		-0.179	-1.026	15	346BDIO	B0.5IA	2XY	UBV STD
508	8.479	Y			1	(W)	B8,A0	H,-	
509	7.285	Y			1	(W)	B9	H	
510	7.24		-0.10	-0.59	*	*	B8,B3III	H,*	NOTE
511	7.813	Y			2	(W)	B9	H	
512	9.481	Y			1	(W)	B8	H	
513	9.856	Y			1	(W)	B9	H	
514	7.90		+0.16	+0.13	*	*	B9	H*	NOTE
515	7.436	Y			1	(W)	B9	H	
516	9.121	Y			1	(W)	B8	H	
517	9.405	Y			2	(W)	B9	H	
518	9.517	Y			1	(W)	B9	H	
519	5.350		-0.208	-0.855	4	34Q	B2IV-V,B2V	2,5	
520	7.912	Y			2	(W)	B9	H	
521	9.125	Y			1	(W)	B9	H	
522	8.873	Y			2	(W)	B9	H	
523	8.932	Y			2	(W)	B8,B8NE	H	NOTE
524	8.429	Y			1	(W)	B9	H	
525	6.796	Y			1	(W)	B9	H	
526	6.560		-0.195	-0.820	4	34C	B2V,B1.5V	1,2	

GENERAL REMARKS TO TABLE 2

UBV data have recently been published by Penston, Hunter and O'Neill (1975) which have not been incorporated into the table. All of their stars have quite a few observations in the table and they provide only one additional measure for each star.

Image-tube spectral types for some faint stars have recently been published by Breger and Rybski (1975) and could not be included in the table body. These are stars 171 (B2), 190 (A0 V), 196 (F2 V), 244 (G0 V), 268 (G5 IV-V), and 321 (B6).

TABLE 2 (continued)

PHOTOMETRIC REFERENCES.--(1) Sharpless 1962; (2) M. F. Walker 1969; (3) Crawford, Barnes, and Golson 1971; (4) Sharpless 1952, 1954; (5) Penston 1973; (6) Lee 1968; (7) Hardie, Heiser, and Tolbert 1964; (8) Morgan and Lodén 1966; (9) Cathey and Heiser 1972; (A) H. L. Johnson 1957; (B) H. L. Johnson and Morgan 1953; (C) Cousins 1962*a*; (D) Cousins and Stoy 1962; (E) Cousins 1962*b*; (F) Crawford 1963*a*; (G) Tolbert 1964; (H) Hiltner and Johnson 1956; (I) Iriarte *et al.* 1965; (J) Belyakina and Chugainov 1960; (K) Hogg 1958; (L) Mendoza 1958; (M) Crawford 1963*b*; (N) Cousins 1963*a*; (O) H. L. Johnson and Borgman 1963; (P) Häggvist and Oja 1966; (Q) Cousins 1963*b*; (R) Cousins 1972; (S) Oosterhoff 1960; (T) Gutiérrez-Moreno *et al.* 1967; (U) Naur 1955; (V) H. L. Johnson and Harris 1954; (W) Arp 1958; (X) Nekrasova *et al.* 1962; (Y) CTIO *UBV* observations, Table A1; (Z) Sincheskul 1971.

SPECTROSCOPIC REFERENCES.--(1) Sharpless 1952, 1954; (2) Lesh 1968*b*; (3) Schild and Chaffee 1971; (4) Cowley *et al.* 1969; (5) Jaschek, Conde, and Sierra 1964; (6) M. F. Walker 1969; (7) Sincheskul 1971; (8) Smith 1972; (9) Abt, Muncaster, and Thompson 1970; (A) H. M. Johnson 1965; (B) Schild and Cowley 1971; (C) Lee 1968; (D) Murphy 1969; (E) Ciatti and Bernacca 1971; (F) Feast, Thackeray, and Wesselink 1957; (G) Herbig 1950; (H) *Henry Draper Catalogue* or *Henry Draper Extension*; (I) Bernacca and Ciatti 1972; (J) Morgan and

TABLE 2 (continued)

Lodén 1966; (K) Conti and Alschuler 1971; (L) Conti 1973; (M) Morgan, Code, and Whitford 1955; (N) Slettebak 1963; (O) Walborn 1972; (P) Parenago 1954; (Q) Tolbert 1964; (R) Crawford 1958; (S) Palmer *et al.* 1968; (T) Hill 1970; (U) Guetter 1968; (V) Bernacca 1968; (W) Crampton and Byl 1971; (X) Walborn 1971; (Y) Buscombe 1969; (Z) Sahovskoy 1957; (+) Garrison 1973; ($) Meisel 1968; (-) Straižys 1963; ()) Bartkus 1964; (÷) Guetter 1975.

NOTES TO TABLE 2

STAR NOTES

20 VAR. V. SHELL STAR WITH SHARP BUT SOMEWHAT VEILED H LINES (REF. 2).

33 ON THE BASIS OF THE BALMER LINES THIS STAR IS CLASSIFIED AS HELIUM-WEAK BY REFERENCE E. THE HE LINES ARE NOTED AS BEING WEAK WHEN COMPARED TO A B6V STANDARD. PRESENCE OF C II 4267 RULES OUT A LATE B-TYPE SPECTRUM.

34 NUMBERS OF OBSERVATIONS: V=74, B-V=75, U-B=62. UBV STANDARD STAR.

36 DOUBLE LINES ARE REPORTED IN THE SPECTRUM BY PLASKETT AND PEARCE (1931).

38 RADIAL VELOCITY APPEARS VARIABLE.

40 CLASSIFIED AS HELIUM-WEAK BY REFERENCE I.

43 OBSERVATIONS BY JOHNSON ET AL. (1966) ARE INCLUDED IN AVERAGES.

49 OBSERVATIONS BY JOHNSON ET AL. (1966) ARE INCLUDED IN AVERAGES.

67 OBSERVATIONS BY LINDOFF (1968) ARE ALSO INCLUDED IN AVERAGES.

78 APPEARS VARIABLE. THE 4 V OBSERVATIONS GIVE 7.313: WHILE 2 Y OBSERVATIONS YIELD 7.381. AVERAGE IS REPORTED IN TABLE.

79 ALSO CLASSIFIED B3V:N BY WALBORN (1971), WHO NOTES WEAK SHELL CHARACTERISTICS IN THE SPECTRUM.

106 REF. 1 REPORTS V = 9.25 (2): Y(CODE M) = 9.18 (2): Y(CODE W) = 9.186 (2). ONLY Y OBSERVATIONS USED TO FORM AVERAGE.

107 THE V OBSERVATIONS YIELD 9.00:. 2 Y MEASURES CHECK WELL AND GIVE 8.999.

116 U-B INCORRECT ON BASES OF BOTH FOUR-COLOR AND UBV-TWO-COLOR DIAGRAM.

117 REF. 4 REPORTS STRONG SI II 4128-30 ABSORPTION.

128 1 OBSERVATION BY REF. 1 GIVES V = 8.09, B-V = +0.12, U-B = -0.02. THIS IS QUESTIONABLE SINCE 1 Y OBSERVATION YIELDS 8.175 AND B-Y AGREES WELL WITH THE B-V OF +0.05 USED.

132 V POSSIBLY VARIABLE. 2 Y OBSERVATIONS GIVE 8.48:. REF. 7 ALSO NOTES AS POSSIBLY VARIABLE IN V.

135 EY ORIONIS. SPECTRUM LISTED AS D A7 IN CATALOGUE OF ABT AND BIGGS (1972). 1 Y OBSERVATION (CODE W) MADE ON FEB. 11, 1972 U.T. GIVES 9.780 AND APPEARS TO HAVE BEEN MADE DURING A PARTIAL PHASE OF PRIMARY ECLIPSE. ANOTHER Y OBSERVATION MADE ON NOV. 6, 1972 YIELDS 9.463 IN AGREEMENT WITH UBV DATA OUTSIDE ECLIPSE.

140 OBSERVATIONS BY LANDOLT (1971) ARE ALSO INCLUDED IN AVERAGES.

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

141 NUMBERS OF OBSERVATIONS: V=18, B-V=23, U-B=21. REPORTED VARIABILITY NOT DETECTABLE. OBSERVATIONS BY LANDOLT (1971) ARE INCLUDED IN AVERAGES.

142 REF. 1 REPORTS V = 10.27 (2); Y(CODE M) = 10.23 (2); Y(CODE W) = 10.24 (1).

144 THIS STAR IS NOT IN THE HD CATALOGUE AND IS INCORRECTLY LABELED HD 36502 IN THE HDE. THEREFORE, IT WAS PROBABLY NEVER GIVEN AN HDE NUMBER AND NEVER CLASSIFIED. THE YALE AND AGK2 CATALOGUES LIST THE STAR AND GIVE THE SPECTRUM AS A; HOWEVER, THE PHOTOMETRY SEEMS TO SHOW THAT IT IS TOO BLUE FOR A. SAHOVSKOY (1957) ALSO IDENTIFIES AS HD 36502, APPARENTLY NOT REALIZING THAT HE HAD CLASSIFIED STARS WITH THIS NUMBER TWICE (THE REAL HD 36502 IS 1 DEGREE SOUTH), BUT HE CLASSIFIES THE STAR B9 FROM OBJECTIVE PRISM PLATES.

148 REF. P CLASSIFIES AS B9 III.

149 Y(CODE M) = 9.89 (4). REF. 1 OBTAINS V = 9.95 (2).

151 HELIUM-WEAK BUT NOT OF TYPICAL VARIETY (REFERENCE V); C II 4267 COMPLETELY ABSENT; FE II 4233 PRESENT HERE BUT NOT IN STANDARD. LOCATED NEAR OBSCURED REGION AND MAY BE IMBEDDED IN DARK CLOUD. THE 5 V OBSERVATIONS GIVE 8.146; Y(CODE W) = 8.178; (2); Y(CODE H) = 8.173 (3).

171 OBSERVED TO BE MAGNETIC BY SARGENT, SARGENT AND STRITTMATTER (1967) BUT NOT CONFIRMED BY CONTI (1970). MCNAMARA AND LARSSON (1962) CLASSIFIED AS HELIUM-WEAK BUT THIS IS NOT CONFIRMED BY MOLNAR (1972) OR BY NORRIS (1971). CONTI FINDS VARIABLE RADIAL VELOCITY WHICH HE ATTRIBUTES TO BINARY MOTION WITH A PERIOD GREATER THAN 1 YEAR.

172 V(=8.69, 1 OBS) REPORTED BY REF. 1 APPEARS AFFECTED BY DUPLICITY (STAR 169 IS 44.8 ARCSEC AWAY). Y(CODE M) = 8.86 (2); Y(CODE W) = 8.83 (1). AVERAGE OF ONLY Y OBSERVATIONS USED HERE. REPORTED B-V IS INCORRECT ACCORDING TO BOTH B-Y AND MK SPECTRAL TYPE.

176 CLASSIFIED AS HELIUM-WEAK BY REFERENCE E. COMPLETE ABSENCE OF HELIUM READILY NOTED. SPECTRUM IS PECULIAR; HOWEVER, IN THAT NUMEROUS ABSORPTION FEATURES NOT SEEN IN STANDARDS OF B3-9 III-V ARE VISIBLE. THESE INCLUDE LINES OF FE II, TI II AND SI II.

180 U-B (+0.05) REPORTED BY REFERENCE 1 APPEARS INCORRECT ON BASIS OF TRANSFORMATION FROM FOUR-COLOR (+0.12). THE 6 V OBSERVATIONS AVERAGE TO 8.707; BUT DO NOT AGREE WELL. Y(CODE W) = 8.714 (2); Y(CODE H) = 8.709 (3). THESE ARE AVERAGED IN THE TABLE. REF. 8 GIVES CA II K = A2, H = F0, METALS = F2.

181 REF. 2 REPORTS U-B = -0.50 FROM 1 OBSERVATION. THIS OBSERVATION APPEARS BAD AND HAS BEEN DISREGARDED. TRANSFORMATION FROM FOUR-COLOR GIVES U-B = +0.08.

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

184 NUMBERS OF OBSERVATIONS: V=14, B-V=U-B=20. V SHOWS EVIDENCE OF SMALL VARIATION. THIS IS AN ECLIPSING SYSTEM CONTAINING THREE COMPONENTS. ALTHOUGH AN SB2, SINCE TWO SETS OF ELEMENTS ARE LISTED BY BATTEN (1967), IT IS POSSIBLE ONLY AT TIMES TO OBSERVE A FAINT TRACE OF THE SECONDARY SPECTRUM, ACCORDING TO BELTRAMI AND GALEOTTI (1970). THE COMBINATION OF THEIR SPECTROSCOPIC DATA WITH EARLIER PHOTOMETRIC ELEMENTS YIELDS THE SPECTRAL TYPES OF THE PRIMARY, SECONDARY AND TERTIARY COMPONENTS AS B2, B7, AND A3, RESPECTIVELY.

196 V POSSIBLY VARIABLE. REF. 2 REPORTS V = 9.71 (2); Y(CODE H) = 9.690 (3); Y(CODE M) = 9.66 (4); Y(CODE W) = 9.686 (1). ALL OBSERVATIONS AVERAGED.

197 POSSIBLY VARIABLE ALTHOUGH UBV OBSERVATIONS AGREE WELL. Y(CODE W) = 8.516: (3); Y(CODE H) = 8.486: (2). Y RESULTS NOT AVERAGED IN.

198 V PROBABLY VARIABLE. REF. 2 REPORTS V = 10.79 (3); REF. Y OBTAINS V = 10.714 (5); Y(CODE H) = 10.734 (3).

200 APPEARS VARIABLE FROM 2 Y OBSERVATIONS. MEAN IS 9.571: WITH SIGMA = 0.073. REF. 7 OBTAINS 9.54 (2).

203 V POSSIBLY VARIABLE. REF. 1 REPORTS 10.13 (2); Y(CODE W) = 10.09 (1).

215 V POSSIBLY VARIABLE. V OBSERVATIONS YIELD 10.627 (3); Y(CODE H) = 10.604 (3); Y(CODE W) = 10.606 (2).

217 UBV IS VARIABLE (REF. 2) BUT STAR VERY NEAR NEBULA. FOR V 9 OBSERVATIONS GIVE 10.233; Y (CODE M) = 10.14 (2); Y (CODE H) = 10.17,10.20, 10.49. ALL OBSERVATIONS AVERAGED.

226 U-B FROM REFERENCE 5 NOT USED (-0.16). FOUR-COLOR TRANSFORMATION GIVES +0.17.

228 U-B IS VARIABLE. SPECTRUM SHOWS STRONG H LINES (REF. A).

229 FOUR-COLOR TRANSFORMATION GIVES U-B = +0.12.

230 V POSSIBLY VARIABLE. REF. 2 OBTAINS 10.56 (4); Y(CODE H) = 10.520 (3); Y(CODE W) = 10.514 (2).

237 UBV DATA INDICATE VARIABILITY. H LINES AND SR II 4077 ANOMALOUSLY STRONG (REF. A). Y(CODE H) = 9.618: (3); Y(CODE W) = 9.592 (2); V = 9.588: (13). MEAN OF ALL OBSERVATIONS REPORTED IN TABLE.

240 V OBSERVATIONS DO NOT AGREE BECAUSE OF 7.04 OBTAINED BY REF. 1; HOWEVER, 1 Y OBSERVATION (CODE W) GIVES 7.090 AND SUPPORTS AVG USED.

242 UBV UNCERTAIN (STAR IN OR IN FRONT OF NEBULA). FOUR-COLOR TRANSFORMATION GIVES B-V = +0.63, U-B = +0.51. H LINES STRONG (REF. A).

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

243 UBV VARIABLE. V = 7.978: (11): Y(CODE H) = 8.010 (3): Y(CODE W) = 7.990 (3). AVERAGE MAGNITUDE USED HERE.

246 DISCUSSED BY GARRISON (1967) AS HAVING A SPECTRUM-COLOR DISCREPANCY. INTRINSIC UBV COLORS ARE THOSE OF A B5 OR B6 STAR. MOLNAR (1972) PLACES AMONG HE WEAK STARS AND FINDS FROM SCANNER DATA THAT HELIUM APPEARS TO BE DEFICIENT.

248 HACK (1969) PLACES THIS STAR AMONG THE TYPICAL B P SILICON STARS. THE COLORS CORRESPOND TO AN EARLY B STAR BUT HELIUM IS ALMOST COMPLETELY ABSENT, THEREBY EXPLAINING ITS CLASSIFICATION AS B8-9. MANY STRONG UNIDENTIFIED ABSORPTION LINES ARE SEEN IN THE 3900 - 4100-A REGION ALONG WITH ANOMALOUSLY STRONG LINES OF TI II, CR II, MN II, FE II AND SR II. THE M1 INDEX IS NOT ABNORMALLY HIGH, HOWEVER.

251 AVERAGE V = 8.864: Y(CODE H) = 8.887 (3): Y(CODE W) = 8.880 (2). AVERAGE USED IN TABLE.

254 FOUR-COLOR TRANSFORMATION GIVES B-V = +0.62, U-B = +0.07. V IS VARIABLE, 5 OBSERVATIONS GIVING 10.702: Y(CODE H) = 10.767 (2).

256 V REPORTED BY REF. 1 DISCREPANT (= 6.92): Y(CODE H) = 6.988 (3): Y(CODE W) = 6.979 (1). ALL OBSERVATIONS AVERAGED.

263 FOUR-COLOR TRANSFORMATION GIVES U-B = +0.019. SPECTRUM MAY BE COMPOSITE AND DISPLAYS BROAD H, HE, AND MG LINES PLUS SHARP FE AND CA I LINES (REF. 9).

264 POSSIBLY VARIABLE. Y(CODE H) = 8.769 (2): Y(CODE W) = 8.787 (1). Y OBSERVATIONS NOT AVERAGED IN SINCE 6 V OBSERVATIONS WERE AVERAGED AND DIFFERENCES ARE NOT VERY LARGE.

266 SPECTRUM MAY BE COMPOSITE (REFERENCE D).

270 HYDROGEN LINES ABNORMALLY STRONG (REFERENCE 1): BALMER CORES APPEAR RED-SHIFTED (REFERENCE A).

271 MAY BE VARIABLE. 9 V OBSERVATIONS GIVE 9.189: Y(CODE H) = 9.209 (3): Y(CODE W) = 9.208 (1). ALL OBSERVATIONS AVERAGED.

272 V MAY VARY SLIGHTLY. 6 OBSERVATIONS GIVE V = 10.510: Y(CODE H) = 10.494 (3): Y(CODE W) = 10.476 (1).

278 UBV VALUES ARE FOR OUTSIDE ECLIPSE AND ARE DETERMINED FROM 1 OBSERVATION IN REFERENCE 1 BUT FROM MANY OBSERVATIONS IN REFERENCE 2. MANY OBSERVATIONS WERE ALSO MADE BY HALL AND GARRISON (1969) AND ARE INCLUDED IN THE AVERAGES.

279 RECENTLY DISCOVERED BY LOHSEN (1975) TO BE AN ECLIPSING VARIABLE WITH A RANGE IN V OF ABOUT 1 MAG AND A PROBABLE PERIOD OF 196.25 DAYS (POSSIBLY 1/2 OR 1/3 THIS VALUE).

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

280 HAS BEEN LISTED AS A SPECTROSCOPIC BINARY BUT FROM 13 SPECTROGRAMS CONTI (1972) FINDS THAT IT IS PROBABLY NOT. SPECTRUM SHOWS AN INVERSE P CYGNI PROFILE WHICH SUGGESTS INFALLING MATERIAL.

281 PROBABLY VARIABLE; Y(CODE H) = 8.489 (3); Y(CODE W) = 8.449 (1) = MEAN 8.479:.

283 V VARIABLE. 9 V OBSERVATIONS GIVE 7.163:; Y(CODE H) = 7.173 (5); Y(CODE W) = 7.156 (2). ALL OBSERVATIONS AVERAGED.

285 HE I LINES EXCEEDINGLY STRONG (REFERENCE J). ABUNDANCE ANALYSIS BY LESTER (1972) SHOWS HE UP BY FACTOR OF ABOUT 2 FROM NORMAL B STARS BUT LOWER THAN SIGMA ORIONIS E. VARIABLE EMISSION REDWARD OF H-ALPHA HAS BEEN REPORTED BY WALBORN (1974).

287 CODE W Y OBSERVATIONS APPEAR TO SHOW DUPLICITY EFFECTS FOR 286/287 AND ARE NOT AVERAGED IN.

288 H LINES STRONG (REF. 10).

290 U-B FROM REFERENCE 5 NOT USED (+0.9:). FOUR-COLOR TRANSFORMATION GIVES +0.57.

291 U-B APPEARS VARIABLE (COULD BE NEBULA); H LINES STRONG (REF. A). V SHOWS VARIABILITY; 3 Y OBSERVATIONS (CODE W) ALSO YIELD 9.660:. THE B8 TYPE IS ORIGINALLY FROM GREENSTEIN AND STRUVE (1946) BUT MAY BE A MISPRINT SINCE THE PRESENCE OF HE I AND ABSENCE OF A K LINE ARE NOTED.

292 U-B MEASURE IN REFERENCE 1 IS INCORRECT (REPORTED AS -0.64).

298 V IS VARIABLE (4 OBSERVATIONS GIVE 9.573). 3 Y MEASURES YIELD 9.59, 9.48, 9.49. CODE H FINDS 9.53 (2). ALL OBSERVATIONS ARE AVERAGED.

304 MAGNETIC FIELD OF +2500 GAUSS FOUND FROM ZEEMAN EFFECT OBSERVATIONS BY SARGENT, SARGENT AND STRITTMATTER (1967). CONTI (1970) SUGGESTS THAT FIELD MAY BE PRESENT BUT ONLY 1 CASE IN 5 GIVES FIELD STRENGTH EXCEEDING 3 PROBABLE ERRORS. CLASSIFIED AS HELIUM-WEAK BY REF. 1 AND BY MCNAMARA AND LARSSON (1962). NORRIS (1971) FINDS THAT THE HELIUM LINES ARE NOT WEAK IF LOG G = 4.0 BUT IF LOG G = 4.4 THEN THEY ARE SLIGHTLY WEAK. STEWART (1955) AND SIEVERS (1969) REPORT NORMAL HE LINES. LISTED AS RW AURIGAE VARIABLE IN THE GCVS.

306 H LINES STRONG (REF. A).

308 V POSSIBLY VARIABLE (STAR IN NEBULA) ALTHOUGH Y OBSERVATIONS CHECK WELL. 14 V OBSERVATIONS GIVE 8.219: WHILE Y(CODE H) = 8.239 (3); Y(CODE W) = 8.234 (3). ALL OBSERVATIONS AVERAGED.

309 V AND U-B APPEAR VARIABLE. REF. A GIVES SPECTRUM AS F4-8 III-V AND NOTES THAT SR II 4077 LINE SOMETIMES STRONG. REF. V GIVES SPECTRUM AS F0 IV - F6 V. THE 9 V OBSERVATIONS GIVE 9.833:; Y(CODE H) = 10.087: (3); Y(CODE W) = 9.974: (2).

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

310 THE V DISCREPANCY (8.10; REF. 1; 8.03; REF. 7) MAY BE DUE TO DUPLICITY SINCE A AND B ARE 15.6 ARCSEC APART. ONE Y MAGNITUDE MEASURE GIVES 8.058 FOR COMPONENT A ALONE. Y IS USED IN AVERAGE.

315 H LINES STRONG (REF. A). H LINES VERY BROAD AND CA II H AND K, CA I, AND MG II LINES SHARP - MAY BE A SHELL STAR (REF. 9). DOES NOT APPEAR VARIABLE, HOWEVER -- Y (CODE W) = 9.876 (1); Y (CODE H) = 9.873 (3).

316 U-B APPEARS VARIABLE. FOUR-COLOR TRANSFORMATION GIVES U-B = +0.08, V = 9.420 (10); Y(CODE H) = 9.408 (3); Y(CODE W) = 9.410 (2).

320 VARIABLE IN ALL RESPECTS. STAR LISTED AS A3 E(ALPHA) + SHELL BY HERBIG AND RAO IN THEIR CATALOG OF EMISSION-LINE STARS OF THE ORION POPULATION (1972). TWO Y OBSERVATIONS (CODE H) GIVE 10.704,10.147; CODE W OBTAINS 10.320,10.357. OBSERVATIONS ARE AVERAGED IN TABLE.

321 RECENTLY CLASSIFIED BY PENSTON, HUNTER AND O NEILL (1975).

322 V OBSERVATIONS GIVE 9.82 (2); Y(CODE M) = 9.80 (2); Y(CODE W) = 9.791 (2).

326 H LINES STRONG (REF. A).

327 SPECTRUM DISPLAYS DOUBLE HE I AND MG II LINES NOT ATTRIBUTABLE TO EMISSION IN STAR - MAY BE DOUBLE-LINED SB (REF. 9). BETA INDEX INDICATES THAT EMISSION IS PRESENT, HOWEVER.

331 REF. 6 REPORTS V = 8.13, B-V = -0.07, U-B = -0.33 (2 OBS). THESE VALUES NOT USED IN AVERAGE AND MAY BE A MIS-IDENTIFICATION. 1 Y OBSERVATION GIVES 8.328 AND FOUR-COLOR SUPPORTS OBSERVATIONS OF REF. 1.

332 REFS. 3 AND 8 GIVE PECULIAR TYPE AS SI, SR. REF. 1 NOTES THAT HELIUM LINES ARE ABSENT AND THAT STRENGTHS OF MG II 4481, H LINES AND CA II K INDICATE A SPECTRAL TYPE NEAR A0 V. STAR MAY BE A SPECTRUM VARIABLE.

335 STAR NOTED AS BEING HELIUM-WEAK BY REF. 1 BUT THIS IS NOT CONFIRMED BY MOLNAR (1972) OR BY NORRIS (1971).

344 POSSIBLY VARIABLE IN V ; Y (CODE W) = 9.193 (1).

346 SI II DOUBLET 4128-30 NOTED AS BEING VERY STRONG COMPARED TO STANDARDS. 1 V OBSERVATION GIVES 8.10; Y(CODE W) = 8.137 (2).

349 PHOTOMETRIC INDICES SUGGEST THAT THIS IS A BACKGROUND B STAR WHICH IS HIGHLY REDDENED.

352 FOUR-COLOR TRANSFORMATION GIVES B-V = +0.01.

354 NOTED BY REF. 1 AS A SPECTRUM VARIABLE, HAVING VARIED FROM B7 V TO NEARLY A0 V, AS INDICATED BY THE RATIO HE I 4471 / MG II 4481 AND BY THE APPEARANCE OF A RATHER STRONG K LINE.

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

357 VARIABLE. Y(CODE H) = 9.638: (3); Y(CODE M) = 9.66 (3). ALL OBSERVATIONS AVERAGED FOR FINAL MAGNITUDE.

358 NOTED AS HAVING AN H-BETA EMISSION CORE.

360 VARIABLE IN V. REF. 2 REPORTS 10.80 (2); REF. Y GIVES 10.723 (4); Y(CODE H) = 10.848 (2).

364 VARIABLE LISTED BY PARENAGO (1954) AS HAVING A MAG RANGE OF 9.7-12.6 AND BY HERBIG AND RAO (1972) OF 9.8-13.4 (BOTH PG). HERBIG AND RAO GIVE SPECTRAL TYPE AS A-F PE(ALPHA) AND NOTE SPECTRUM AS VERY PECULIAR, DISPLAYING MANY DOUBLE OR STRONGLY ASYMMETRIC LINES OF IONIZED METALS. ONLY EMISSION VISIBLE IN PHOTOGRAPHIC REGION ON A 16 A/MM COUDE PLATE IS A BRIGHT CORE IN K. UBV DATA REPORTED BY HERBIG AND RAO AND LISTED IN THE PRESENT TABLE ARE FROM UNPUBLISHED LICK OBSERVATIONS BY B. PACZYNSKI IN 1962-63. 1 Y OBSERVATION (CODE G) GIVES 10.40.

368 V CLASSIFIED AS UNCERTAIN IN REF. 2. Y(CODE H) = 11.150 (2).

372 MOLNAR (1972) STATES THAT SPECTROSCOPIC EVIDENCE INDICATES THAT STAR HAS CHANGED ITS SPECTRAL TYPE BY VARIATION OF THE HELIUM LINE STRENGTHS. OLD OBJECTIVE PRISM PLATES GIVE B8 (AS IN HD) BUT STAR IS NOW B3 V.

375 V PROBABLY VARIABLE. REF. 1 REPORTS V = 10.24 (2); Y(CODE M) = 10.13 (4); Y(CODE W) = 10.09 (1).

379 REF. 7 NOTES AS POSSIBLE V VARIABLE. 1 Y OBSERVATION GIVES 7.64.

381 POSSIBLY VARIABLE IN V. 3 V OBSERVATIONS GIVE 7.190. Y(CODE H) = 7.143: (4); Y(CODE W) = 7.180: (2). ALL OBSERVATIONS AVERAGED.

391 FOUR-COLOR TRANSFORMATION GIVES U-B = +0.04.

392 FOUR-COLOR TRANSFORMS TO B-V = -0.10, U-B = -0.40.

395 V APPEARS VARIABLE FROM BOTH V AND Y OBSERVATIONS. V = 9.435: (4); Y(CODE W) = 9.392 (2).

402 V (=9.88) FROM REF. 1 QUESTIONABLE (NOT USED). V (REF. 6) = 9.79 (3); Y (CODE W) = 9.790 (2); Y (CODE M) = 9.78 (3).

403 REF. 1 REPORTS V = 9.72 (2); Y(CODE M) = 9.63 (3); Y(CODE W) = 9.600 (3). ONLY Y OBSERVATIONS USED TO FORM AVERAGE.

406 NO V REPORTED BY REF. 1. REF. 6 V = 8.68 (4); Y(CODE W) = 8.676 (3).

412 V (REF. 1) = 10.33 (3); V (REF. 6) = 10.23 (3); Y (CODE W) = 10.22 (2). RESULT FROM REF. 1 GIVEN 1/2 WEIGHT IN AVERAGE.

414 VERY STRONG HE I SPECTRUM (REFERENCE +).

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

425 POSSIBLY SLIGHTLY EARLIER THAN B6 BUT NOT AS EARLY AS B5 (REF. +).

428 POSSIBLY VARIABLE IN V. REF. 1 GIVES 9.33 (1); REF. 6 GIVES 9.28 (3). 2 Y OBSERVATIONS (CODE W) YIELD 9.335 AND 9.276.

430 ESTIMATED SPECTRAL TYPE - NO STANDARDS (REFERENCE +).

438 V = 9.04 (3); Y(CODE J) = 9.009 (3); Y(CODE W) = 9.046; (3). REF. 7 NOTES V AS POSSIBLY VARIABLE. ALL OBSERVATIONS AVERAGED.

443 U-B PROBABLY VARIABLE. FOUR-COLOR TRANSFORMATION GIVES -0.64.

445 V POSSIBLY VARIABLE. REF. 1 REPORTS 10.42 (2); REF. 6 GIVES 10.39 (3); Y(CODE W) = 10.36 (2).

446 FOUR-COLOR TRANSFORMATION GIVES U-B = -0.66. RV MAY BE VARIABLE.

456 V (= 7.96) FROM REF. 1 DISCREPANT. REF. 6 OBTAINS 8.04; Y(CODE W) = 8.032 (1). ALL OBSERVATIONS AVERAGED.

459 V MAY VARY. REF. 1 REPORTS 10.28 (2); Y(CODE M) = 10.23 (2).

462 THE UBV PHOTOMETRY IN REF. Z SHOWS LARGE EXTERNAL SCATTER AND THIS V MAGNITUDE IS INCLUDED ONLY BECAUSE NO OTHER COULD BE FOUND.

466 VARIABLE EMISSION AT H BETA (REFERENCE +).

469 TRANSFORMED Y MAGNITUDES OF 7.95 AND 7.99 INDICATE THAT V IS VARIABLE. BARNES (FOUR-COLOR TABLE CODE J) OBTAINS 7.94. REF. 7 REPORTS 7.90 (2). AVERAGE USED IN TABLE. REFERENCE + REPORTS STRONG SHELL CORES IN THE SPECTRUM AT H GAMMA, DELTA, ETC.; CA II VERY STRONG; FE II VISIBLE; SI II AND MG II MAY BE ENHANCED IN WHICH CASE THE HE I SPECTRUM MAY BE AS EARLY AS B8.

471 DESCRIBED AS HAVING WEAK HELIUM LINES BY MCNAMARA AND LARSSON (1962) BUT LATER CLASSIFIED AS NORMAL EARLY B-TYPE (NOT HE WEAK) BY MOLNAR (1972) AND BY NORRIS (1971). NO MAGNETIC FIELD REVEALED BY ZEEMAN EFFECT MEASUREMENTS.

473 POSSIBLY VARIABLE IN V. 12 UBV OBSERVATIONS GIVE 7.829. Y (CODE W) = 7.829 (1); Y (CODE J) = 7.841 (3); Y (CODE H) = 7.838 (4). ALL VALUES ARE AVERAGED IN THE TABLE.

474 SYSTEMATIC CORRECTION OF +0.03 ADDED TO U-B VALUE OF REF. Q FROM ANALYSIS OF OTHER STARS PUBLISHED. UBV OBSERVATIONS OF JOHNSON ET AL. (1966) AVERAGED IN. THEY OBTAIN U-B = +0.07. FOUR-COLOR TRANSFORMATION AGREES WELL, GIVING U-B = +0.072.
REFERENCE + SPECTRAL TYPE ESTIMATED - NO STANDARDS.

490 POSSIBLY SLIGHTLY EARLIER THAN B5 BUT NOT AS EARLY AS B3 (REF. +).

NOTES TO TABLE 2 (CONTINUED)

STAR NOTES

494 FOUR-COLOR TRANSFORMATION GIVES U-B = -0.20. V MAY BE VARIABLE = 8.825 (4); Y(CODE H) = 8.777 (2); Y(CODE W) = 8.808 (2). ALL OBSERVATIONS AVERAGED.

497 REF. 8 SUGGESTS THAT STAR IS BACKGROUND BRIGHT GIANT.

499 UBV OBSERVATIONS BY STROM ET AL. (1975) SHOW GOOD AGREEMENT BUT NUMBER OF MEASURES NOT REPORTED.

502 STROM ET AL. (1975) REPORT 10.42, +0.60, -0.04, IN GOOD AGREEMENT. THEY REPORT A SPECTRAL TYPE OF B3-B5 FROM IMAGE TUBE SPECTRA.

503 V OBSERVATIONS INDICATE VARIABILITY. 1 Y OBSERVATION (CODE W) GIVES 10.594, AGREEING WELL WITH AVERAGE. STROM ET AL. (1975) REPORT 10.56, +1.18, +0.28, NUMBER OF OBSERVATIONS NOT BEING GIVEN. VARIABILITY IN (U-B) IS PRESENT IF THE LATTER OBSERVATION IS CORRECT. THESE AUTHORS ALSO REPORT THE B2II-III SPECTRAL TYPE AS DERIVED FROM 125 A/MM IMAGE TUBE SPECTROGRAMS.

510 UBV AND MK TYPE REPORTED BY STROM ET AL. (1975) BUT NUMBER OF OBSERVATIONS NOT GIVEN. 1 Y OBSERVATION (CODE W) GIVES 7.231.

514 UBV AND IMAGE TUBE SPECTRAL TYPE REPORTED BY STROM ET AL. (1975) BUT NUMBER OF OBSERVATIONS NOT GIVEN. 1 Y MEASURE (CODE W) YIELDS 7.912.

523 B8 NE TYPE LISTED BY JASCHEK, FERRER AND JASCHEK (1971) BUT NO REFERENCE IS GIVEN.

TABLE 3

MEAN EXTINCTION COEFFICIENTS

Run		K	K_1	K_2	K_3
KPNO		$0^m.179$	$0^m.056$	$0^m.062$	$0^m.167$
CTIO	Nov-Dec	0.141	0.058	0.053	0.169
	Jan-Feb	0.192	0.058	0.072	0.175

TABLE 4

MEAN ERRORS FOR A SINGLE OBSERVATION

	V	n	$b-y$	n	m_1	n	c_1	n	β	n
KPNO	$0^m.022$	163	$0^m.009$	377	$0^m.010$	375	$0^m.012$	358	$0^m.010$	100
CTIO	0.012	135	0.008	137	0.011	135	0.012	136	0.010	139

TABLE 5

MEAN DIFFERENCES FOR TRANSFORMED y MAGNITUDES

Observer Code*	$\langle V-V(y)\rangle$	σ	n
G	$+0^{m}.0078$	$0^{m}.0253$	9
H	+0.0020	0.0184	127
J	-0.0025	0.0080	11
M	+0.0131	0.0266	38
W	+0.0019	0.0153	293

*Codes are those listed following Table A6, Appendix C.

TABLE 6

EXTERNAL CONSISTENCY OF *uvbyβ* OBSERVATIONS

Observer Code	$\langle\Delta(b-y)\rangle$	σ	$\langle\Delta m_1\rangle$	σ	$\langle\Delta c_1\rangle$	σ	n	$\langle\Delta\beta\rangle$	σ	n
C,J,D	$-0^m.004$	$0^m.009$	$-0^m.001$	$0^m.010$	$0^m.009$	$0^m.014$	31	$0^m.001$	$0^m.009$	25
H	-0.005	0.011	0.003	0.011	-0.003	0.015	96	-0.013	0.013	78
A								-0.003	0.013	17
B								0.002	0.012	18
S								-0.007	0.008	7

TABLE 7

NEW *uvbyβ* OBSERVATIONS

Star	V	n	$b-y$	m_1	c_1	n	β	n
2	$7^m.51$	1	$-0^m.044$	$0^m.096$	$0^m.517$	2	$2^m.726$	3
3	7.66	1	0.007	0.143	0.997	2		
4	10.11	1	0.159	0.103	0.935	2		
5	8.31	1	0.071	0.183	0.995	2	2.876	1
6	7.61	1	-0.006	0.087	0.845	2	2.778	3
7	8.88	1	-0.004	0.118	0.872	2		
8	6.69	1	-0.026	0.109	0.682	2	2.768	3
9	8.895	1	-0.007	0.080	0.301	2	2.682	3
10	8.71	1	0.039	0.109	0.771	2	2.808	3
11	8.77	1	-0.031	0.072	0.102	2	2.637	3
12	8.04	2	0.016	0.075	0.549	2	2.687	3
13	7.89	1	0.051	0.101	0.758	2	2.808	2
14	7.76	2	0.081	0.121	0.987	3	2.897	2
15	6.41	1	0.007	0.138	1.133	2	2.875	3
16	8.705	2	0.017	0.091	0.623	3	2.737	3
17	7.39	1	-0.034	0.078	0.263	2	2.675	3
19	8.41	2	0.003	0.107	0.668	4	2.770	3
20	6.54	1	-0.023	0.075	0.542	3	2.603	3
22	7.11	1	-0.023	0.108	0.721	2		
23	5.65	2	-0.057	0.112	0.271	2	2.675	2
25	7.065	3	0.021	0.089	0.369	4	2.712	2
26	7.19	1	-0.028	0.073	0.321	2	2.678	2
27	5.00	1	-0.045	0.074	0.060	2	2.621	2
28	8.335	1	0.020	0.107	0.805	2	2.834	2
29	8.17	1	-0.023	0.102	0.546	2	2.748	2
30	8.35	1	-0.035	0.100	0.769	2	2.781	2
31	8.00	2	-0.017	0.094	0.488	3	2.731	2
32	8.80	2	0.003	0.119	0.959	3	2.880	2
33	7.89	1	-0.046	0.091	0.369	2	2.709	2
34	5.69	2	-0.103	0.107	0.039	2	2.629	2
35	8.40	1	-0.035	0.121	0.633	3	2.775	2
37	3.315	2	-0.060	0.078	-0.014	3	2.605	2
38			-0.077	0.069	0.044	1		
39	8.73	2	-0.019:	0.135:	0.866:	4	2.837	2
40	6.93	1	0.000	0.096	0.496	2		

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
41	$7^m.44$	1	$-0^m.004$	$0^m.095$	$0^m.601$	2	$2^m.738$	2
42	7.34	5	0.010	0.107	0.335	6	2.715	4
43	6.56	1	-0.007	0.119	0.884	2	2.796	1
44	6.43	3	-0.072	0.108	0.205	4	2.661	2
46	8.31	1	-0.010	0.099	0.679	2	2.775	2
47	8.32	1	0.025	0.161	1.088	3	2.913	2
48	6.52	1	0.016	0.112	0.802	2	2.803	2
49	4.59	1	-0.082	0.073	0.028	1	2.617	1
50	8.52	2	-0.014	0.107	0.751	3	2.809	2
51	7.21	1	-0.061	0.090	0.304	2	2.680	2
52	9.30	3	0.007	0.142	0.939	3	2.898	1
53	6.75	1	-0.064	0.091	0.210	2	2.671	2
54	6.62	1	-0.064	0.096	0.205	2		
55	9.81	2	0.067	0.164	1.002	2	2.919	1
56	8.89	1	-0.006	0.115	0.917	2	2.877	2
57	7.21	3	-0.060	0.103	0.329	4	2.706	2
58	9.23	2	0.051	0.132	0.910	2	2.850	1
59	9.76	2	0.074	0.160	0.994	2	2.889	1
60	7.70	2	0.003	0.107	0.635	4	2.759	1
61	8.93	1	-0.030	0.175	0.961	2	2.884	1
62							2.781	1
63	8.12	1	-0.019	0.113	0.785	2		
64	9.80	3	0.070	0.194	0.974	4	2.903	1
65	7.82	1	-0.038	0.102	0.522	3	2.714	1
66	7.82	3	-0.007	0.096	0.479	4	2.737	2
67	7.52	5	-0.056	0.109	0.322	6	2.688	5
68	9.66	2	0.042	0.183	0.956:	2	2.909	1
70	9.03	2	-0.007	0.149	0.917:	2	2.790	1
71	7.57	1	-0.033	0.096	0.440	2	2.712	2
72	8.34	1	-0.037	0.126	0.628	2	2.766	1
73	9.77	3	0.052	0.184	0.989	4	2.906	1
74	8.37	2	0.023:	0.140:	0.966:	4	2.874	2
75	8.86	2	-0.004	0.122	0.871	4	2.843	2
76	6.645	1	-0.028	0.125	0.844	2		
77	8.83	1	0.087	0.091	0.715	2	2.717	1
78	7.38	2	-0.044	0.096	0.420	4	2.621	1
79	6.90	1	-0.061	0.095	0.351	2	2.671	1
80	9.165	2	0.001	0.119	0.843	2	2.836	1
81	7.51	1	0.163	0.146	0.980	2	2.765	1
82	9.05	1	0.169	0.180	0.752	2	2.788	1

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
83	$8^m.89$	3	$0^m.027$	$0^m.176$	$0^m.985$	4	$2^m.921$	1
84	8.03	1	-0.020	0.088	0.414	2		
85	8.73	1	0.051	0.189	0.957	2	2.894	2
86	8.69	1	-0.007	0.105	0.872	2		
88	9.48	3	0.100	0.170	0.902	4	2.834	1
89			-0.016	0.117	0.631	2	2.769	1
90	8.21	1	0.045	0.093	0.543	2	2.730	2
91	7.13	1	-0.063	0.100	0.296	2	2.679	2
92	8.89	1	-0.004	0.133	0.892	2	2.819	2
93	9.85	1	0.355	0.178:	0.478:	2		
94	11.66	1	0.256:	0.185	0.960	2		
95	9.59	1	0.325	0.132:	0.464	2		
96	7.98	1	0.059	0.164	0.980	2	2.877	1
97	6.87	1	0.035	0.155	1.080	2	2.872	1
98	11.21	1	0.452	0.092:	1.156:	2		
99			-0.036	0.096	0.387	2	2.701	1
100	8.15	1	-0.051	0.119	0.567	2	2.746	1
101							2.643	1
102	8.68	1	-0.023	0.125	0.762	2	2.803	3
103	7.66	1	-0.006	0.099	0.680	2		
104	10.26	1	0.196	0.190	0.764:	2		
105	9.51	1	0.263	0.150	0.592	2		
106	9.19	3	0.057	0.206	0.957	3	2.897	1
107	8.99	2	-0.010	0.111	0.781	2	2.799	1
108	9.465	3	-0.007	0.133	0.917	3	2.867	1
109	8.66	4	-0.022	0.109	0.631	5	2.774	2
110	9.45	1	0.333	0.162	0.352	2		
111							2.722	2
112	9.30	2	0.012	0.151	0.976	2	2.902	1
113	6.34	1	-0.080	0.093	0.117	4	2.647	1
114	7.94	1	0.040	0.098	0.448	2	2.732	2
115	8.14	1	-0.012	0.100	0.673	2		
116	9.93	3	0.038	0.180	0.987	5	2.903	1
117	8.195	1	-0.016	0.124	0.571	2		
118	8.36	1	0.005	0.112	0.591	2		
119	9.01	1	0.035	0.165	1.096	4	2.894	1
120	7.98	1	-0.050	0.087	0.135	2	2.642	2
121	9.20	2	0.015	0.149	0.991	2	2.902	1
122	7.55	1	0.053	0.188	1.034	2	2.878	1
123	5.465	1	-0.083	0.097	0.114	2	2.635	2

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
124							2.954	1
125	10.815	1	0.351	0.106	0.923	2		
126	9.53	1	0.324	0.171	0.530	2		
127	9.51	1	0.320	0.146	0.569:	2		
128	8.175	1	0.036	0.154	0.922	3	2.885	1
129	9.26	1	0.084	0.133	0.931	2	2.851	1
130	7.55	2	-0.060	0.105	0.335	4	2.688	1
131	10.22	1	0.183	0.173	0.933	2	2.825	1
132	8.48:	2	-0.020	0.095	0.499	4		
133	10.76	1	0.264:	0.154:	0.606	2		
134	9.70	2	0.045	0.159	1.031	2	2.888	1
135	9.64:	2	0.506:	0.138:	0.982:	5	2.726	1
136	7.57	2	-0.036	0.091	0.329	4	2.684	2
138	8.98	1	0.007	0.107	0.835	2		
139	8.68	1	0.099	0.080	0.689	2	2.778	2
140	6.86	1	-0.060	0.120	0.190	2	2.665	1
141	2.26	1	-0.078	0.063	-0.131	2		
142	10.24	1	0.103	0.208	0.907	2	2.851	1
143			-0.047	0.110	0.462	2	2.723	1
144	8.435	1	-0.045	0.134	0.518	2	2.741	1
145	9.22:	2	0.016	0.105	0.918	2	2.850	1
146	9.50	2	-0.002	0.163	0.929	2	2.875	1
147			-0.099	0.060	-0.097	1	2.596	1
148	8.30	1	-0.034	0.110	0.345	2		
149							2.749	1
150							2.864	1
151	8.17	5	0.080	0.066	0.393	6	2.711	4
152	9.40	1	-0.003	0.173	0.977	2	2.917	2
153	7.67	2	-0.026	0.107	0.557	4	2.746	1
154	10.45	1	0.190:	0.222:	0.740:	2		
155			-0.025	0.099	0.634	2	2.751	2
156	8.58	1	-0.038	0.119	0.648	2	2.766	2
157	8.81	5	-0.007	0.122	0.815	6	2.832	4
158	9.46	1	0.268	0.142:	0.508:	2		
159	5.33	26	-0.070	0.080	-0.003	56	2.613	29
160	9.03	1	0.015	0.112	0.854	2		
161	9.345	2	-0.015	0.142	0.871	2	2.842	1
162	11.31	1	0.306	0.046	1.016:	2		
163	7.96	1	0.081	0.092	0.817	2		
164	8.42	2	0.018	0.141	0.950:	3		

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
165	$8^m.76$	4	$0^m.080$	$0^m.198$	$0^m.949$	5	$2^m.875$	4
166	9.20	1	-0.015	0.129	0.899	2	2.863	1
167	7.60	1	-0.038	0.098	0.456	2	2.708	2
168							2.756	1
169							2.921	1
170	7.98	1	-0.007	0.115	0.834	2		
171	7.65	9	0.067	0.067	0.138	10	2.659	8
172	8.83	1	0.355	0.177	0.343	4	2.618	1
173	6.51	2	-0.032	0.094	0.276	2	2.684	2
174	9.29	3	0.167	0.164	[illegible].951	3	2.795	3
175	8.64	2	0.014:	0.124:	0.915:	4	2.849	2
176	8.06	2	-0.043	0.119	0.592	3	2.730	1
177	8.62	5	-0.015	0.121	0.773	5	2.802	4
178	10.65	3	0.273:	0.163:	0.507:	3	2.658:	3
179	8.65	1	0.003	0.133	0.930	2		
180	8.71	5	0.201	0.204	0.714	6	2.770	3
181	10.19	3	0.291	0.159	0.568	4	2.660	4
182	8.94	5	0.002	0.161	0.956	6	2.891	4
183	10.94	3	0.382	0.153	0.304	3	2.553	3
185	11.43	3	0.346:	0.165:	0.373:	3	2.601	3
186	9.80	3	0.065	0.205	0.959	3	2.866	5
187	8.62	2	0.047	0.147	0.959	2	2.868	1
188	9.08	3	0.136	0.216	0.827	4	2.831	4
189	10.17	3	0.058	0.177	0.972	3	2.912	3
190	11.40	5	0.532	0.074	0.911:	6	2.829	1
191	10.69	3	0.416:	0.171	0.343	3	2.543	3
192	9.65	1	0.280	0.148	0.420	2		
193	6.57	1	-0.079	0.099	0.148	2	2.654	1
194	8.84	3	0.043	0.164	0.975	3	2.922	3
195	10.405	3	0.346	0.151:	0.469	3	2.615:	3
196	9.69	4	0.241	0.161	0.647	4	2.678	4
197	8.50:	5	0.052	0.086	0.466	8	2.726	3
198	10.73	3	0.275	0.152	0.602	3	2.665	3
199	8.53	1	-0.021	0.102	0.602	2	2.761	2
200	9.57:	2	0.119	0.087	0.677	2	2.746	1
201	7.64	1	-0.039	0.108	0.575	2		
202	6.23	4	-0.069	0.097	0.132	6	2.646	3
203	10.09	1	0.071	0.194	0.936	2	2.910	1
204	8.81	5	0.308	0.165	0.437	5	2.660	4
205	10.12	3	0.256	0.211	0.742	3	2.746:	4

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
206	$9^m.49$	2	$-0^m.007$	$0^m.162$	$0^m.892$	2	$2^m.886$	1
207	9.97	1	0.253	0.186	0.634	2		
208	7.06	1	0.088	0.196	0.971	2		
209	8.62	1	0.003	0.132	0.884	2	2.870	1
210	8.21	2	0.054	0.084	0.378	3		
211	6.68	1	-0.067	0.101	0.207	2		
212	11.71	2	0.388	0.150	0.353	2	2.585	2
213	8.68	1	0.016	0.139	0.891	2	2.880	2
214							2.821	1
215	10.60	5	0.313	0.156	0.486	5	2.636	4
216	10.31	2	0.365	0.187	0.377:	4	2.661	1
217	10.29:	3	0.389	0.151	0.455	4	2.601	4
218	8.54	1	0.068	0.117	0.727	3	2.792	1
219	6.72	1	-0.059	0.090	0.242	2	2.667	2
220	9.825	1	0.201	0.192:	0.637:	2		
221	8.60	2	0.071	0.071	0.547	3		
222	9.80	3	0.067	0.118	1.005	3	2.896	3
223	8.27	4	0.150	0.208	0.976	5	2.820	4
224	8.13	4	-0.034	0.095	0.494	5	2.719	4
225	6.83	4	0.082	0.198	1.024	5	2.832	4
226	10.88	1	0.447	0.177	0.339	3	2.497	1
227	7.43	4	-0.019	0.111	0.560	5	2.755	4
228	10.27	5	0.164	0.169	0.907	6	2.810	4
229	9.29	5	0.050	0.186	1.045	6	2.866	4
230	10.52	5	0.134	0.187	0.836	5	2.817	4
231	9.30	2	-0.016	0.151	0.915	2	2.889	1
232	9.62	3	0.370	0.169	0.430	3	2.622	4
233	10.73:	2	0.535	0.062	0.708	2	2.776	1
234	8.31	1	0.111	0.087	0.771	2	2.755	2
235	9.55	3	0.117	0.168	0.993	3	2.819	1
236	7.25	4	-0.023	0.110	0.479	6	2.746	4
237	9.61:	5	0.010	0.169	0.988	6	2.884	4
238			0.306	0.154	0.409	2	2.669	1
239	10.25	3	0.375	0.123	0.317	4	2.584	4
240	7.09	1	-0.020	0.109	0.546	2		
241	8.03	2	0.022	0.107	0.618	3	2.756	1
242	10.19	1	0.396	0.097	1.075	2	2.808	1
243	8.00	6	0.121	0.093	1.079	6	2.811	3
244	11.24:	2	0.425	0.176	0.375	2	2.512	2
245	9.32	4	-0.005	0.140	0.926	5	2.868	5

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
246	$8^m.36$	5	$-0^m.042$	$0^m.108$	$0^m.457$	4	$2^m.716$	4
247	9.45	3	0.057	0.198	0.848	3	2.866	3
248	6.73	1	-0.068	0.116	0.486	2	2.705	1
249	7.57	5	-0.044	0.100	0.397	6	2.705	4
250	9.80	3	0.315	0.152	0.474	3	2.632	4
251	8.88	5	0.064	0.105	0.742	6	2.815	5
252	9.01	6	-0.003	0.117	0.726	6	2.760	3
253	11.49	2	0.344	0.122	0.393	2	2.611	2
254	10.77	2	0.402	0.137	0.403	2	2.567:	3
255	7.50	1	-0.042	0.096	0.441	2	2.716	4
256	6.99	4	-0.044	0.107	0.282	5	2.692	3
257	9.45	4	0.037	0.207	0.829:	5	2.854	4
258	8.86	4	0.035	0.147	0.952	5	2.886	4
259	9.64	3	0.173	0.164	0.836	3	2.777	4
260	7.34	3	-0.016	0.090	0.303	4	2.692	5
261	10.93	5	0.298	0.148	1.041	5	2.908	4
262	10.48	5	0.413	0.068	0.837	5	2.809	4
263	10.16	5	0.098	0.131	0.922:	7	2.858:	5
264	8.77	3	-0.021	0.110	0.769	4	2.784	3
265	5.68	5	-0.091	0.083	0.032	6	2.626	5
266	4.78	6	-0.105	0.073	-0.056	7	2.598	6
267	8.97	3	0.034	0.117	0.947	3	2.841	3
268	11.07	1	0.430	0.251	0.301	1	2.553	1
269	7.85	4	-0.053	0.105	0.382	5	2.701	4
270	8.43	5	0.140	0.012	0.147	6	2.635	3
271	9.21	4	-0.008	0.130	0.849	6	2.840	4
272	10.49	4	0.331	0.168	0.409:	5	2.612:	4
273	8.885	1	-0.027	0.131	0.781	2	2.818	1
274	8.34	1	-0.023	0.133	0.869	2	2.846	1
275							2.798	1
276	9.00	4	-0.010	0.129	0.836	5	2.821	5
277	9.53	7	0.283	0.004	0.213	8	2.657	5
278	8.00	3	0.191	0.045	0.250:	3	2.615	1
279	6.76	3	0.093	0.028	-0.046:	4	2.584	1
280	5.11	7	0.064	0.037	-0.161	7	2.553	4
281	8.48:	4	-0.040	0.113	0.531	5	2.749	4
282	7.46	4	-0.046	0.088	0.267	5	2.665	3
283	7.17	7	-0.056	0.104	0.334	8	2.687	6
284	6.26	5	-0.060	0.100	0.255	7	2.681	5
285	6.57	4	-0.057	0.104	0.158	5	2.644	4

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
286	$9^m.79$	3	$0^m.172$	$0^m.070$	$0^m.736$	7	$2^m.783$	6
287	10.085	3	0.200	0.152	0.820	7	2.817	6
288	9.365	5	0.017	0.147	1.006	5	2.867	4
289	9.87	4	0.469	0.178	0.400	5	2.568	4
290	10.91	1	0.747	0.167:	0.304:	2	2.575	1
291	9.66:	3	0.267	0.019	0.154:	4	2.710	1
292	6.71	4	0.126	0.023	-0.057:	5	2.610:	2
293	8.50	1	0.037	0.104	0.736	2	2.797	1
294	9.58	3	0.056	0.149	0.999	3	2.906	3
295	4.60	4	-0.080	0.079	-0.008	5	2.618	5
296	5.08	5	0.016	0.036	-0.108	6	2.592	5
297	6.40	6	-0.004	0.049	-0.080	6	2.599	4
298	9.52:	5	0.017:	0.155:	1.006:	6	3.024:	3
299	9.78	4	0.082	0.213	0.930	4	2.850	4
300	9.73	4	0.244	0.166	0.692	4	2.679:	4
301	2.78	2	-0.096	0.071	-0.137	2	2.581	2
302	6.38	3	-0.050	0.112	0.294	4	2.702	3
303	6.32	4	-0.056	0.096	0.245	5	2.675	4
304	7.34	4	-0.070	0.107	0.156	5	2.654	5
305	9.10	5	-0.018	0.132	0.784	6	2.8[illegible]5	5
306	9.35	5	0.007	0.142	0.959	5	2.858	4
307	6.82	4	0.254	0.013	-0.048	5	2.610	4
308	8.24	6	0.053	0.090	0.358	6	2.683	4
309	10.02:	4	0.366:	0.191:	0.745:	5	2.696:	3
310	8.06	1	-0.024	0.107	0.567	2	2.732	1
311	8.96	1	0.001	0.129	0.909	1	2.850	1
312	8.37	2	-0.018	0.118	0.640	3	2.755	1
313	9.27	2	0.010	0.132	0.878	2	2.854	1
314	5.27:	5	0.144	0.188	0.989	5	2.760	5
315	9.87	4	0.031	0.180	0.957	5	2.893	4
316	9.41	5	0.037	0.189	1.005	5	2.892	5
317	8.98	6	0.291	0.160	0.390	8	2.648	5
318	8.63	1	0.022	0.132	0.852	2		
319	11.03	2	0.408	0.175	0.394	2	2.581	2
320	10.38:	4	0.317:	0.148	1.268:	4	2.794:	3
321	11.29	3	0.502	-0.027:	0.194:	3	2.672:	3
322	9.79	2	0.056	0.173	0.954	2	2.909	1
323	8.81	1	-0.001	0.180	0.940	1	2.895	1
324	8.02	1	-0.012	0.094	0.473	2		
325	11.37	2	0.388	0.156	0.391	2	2.571	2

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
326	$9^m.01$	4	$-0^m.010$	$0^m.136$	$0^m.870$	5	$2^m.842$	5
327	7.07:	6	-0.039	0.112	0.357	6	2.572	4
329	9.97	6	0.130	0.090	0.803	7	2.788	6
330	10.47	3	0.270	0.146	0.548	3	2.653	3
331	8.33	1	-0.012	0.094	0.570	2	2.727	1
332	8.56	3	0.105	0.079	0.407	4		
333	9.98	3	0.117	0.179	0.905	3	2.863	3
334	8.02	1	-0.016	0.087	0.463	2		
335	7.16	5	-0.065	0.104	0.219	6	2.670	5
336	10.43	1	0.236	0.148	0.678	2		
337	10.35	1	0.290:	0.202:	0.507	2		
338	9.38	4	0.316	0.148	0.456	5	2.618	4
339	6.56	6	-0.084	0.093	0.150	7	2.641	4
340	7.38:	2	-0.033	0.113	0.619	3	2.777	1
341	7.86	1	-0.010	0.105	0.392	2		
342	8.12	3	0.016	0.121	0.755	4	2.800	1
343	8.29	3	0.068	0.156	1.010	3	2.887	3
344	9.19	1	-0.015	0.131	0.886	2	2.878	2
345	8.65	5	0.159	0.208	0.791	6	2.774	4
346	8.14	2	-0.046:	0.147:	0.570:	3	2.789	1
347	9.20	5	0.169	0.168	0.829	6	2.753	4
348	10.71	3	0.155	0.183	0.799:	3	2.769	3
349	10.64	3	0.578	-0.042	0.269	3	2.647	3
351	10.27	1	0.204	0.183:	0.672	2		
352	9.65	2	0.023	0.133	0.926	2	2.904	1
353	7.74	1	0.035	0.136	0.704	2	2.816	2
354	8.16	2	-0.032	0.106	0.544	4		
355	10.17	3	0.085	0.168	1.015	3	2.875	3
356	9.58	6	0.356	0.152	0.427:	7	2.609	4
357	9.64:	3	0.084:	0.156:	0.962:	3	2.833:	4
358	7.90	1	-0.048	0.109	0.397	2	2.724	1
359	10.88	3	0.383	0.102	0.412	3	2.604:	3
360	10.85	2	0.573	0.269	0.253	2	2.529	2
361	8.98	4	0.057	0.169	0.949	5	2.900	5
362	9.92	2	0.130	0.116	0.953	2	2.849	1
363	11.31	1	0.238	0.181	0.805	1	2.811	1
364	10.40	1	0.248:	0.186:	1.230:	2		
365	10.97	1	0.140	0.222	0.858:	2	2.788	1
366	12.05	1	0.398	0.151	1.011	1	2.805	1
367	11.30	3	0.503:	-0.009:	0.874:	3	2.774:	4

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
368	11.15	2	0.294	0.153:	0.456	2	2.648	3
369	[illegible]00	1	0.762	0.108	0.958	1	2.726	1
370	[illegible]8	3	0.248	0.167	0.512	4	2.663	3
371	[illegible].675	1	0.306	0.184	0.421	2		
372	7.12	1	-0.035	0.120	0.404	2	2.731	1
373	9.41	3	0.044	0.161	1.034	5	2.879	1
374	6.05	11	-0.089	0.075	0.020	14	2.616	14
375	10.09	1	0.079	0.204	0.926	2	2.900	1
376	8.53	4	0.030	0.182	0.896	5	2.884	5
377	8.01	1	-0.044	0.091	0.451	2	2.712	1
378	7.47	1	-0.024	0.091	0.458	2	2.641	1
379	7.64	1	-0.051	0.104	0.391	2		
380	9.80	2	0.037	0.157	1.017	2	2.914	1
381	7.15:	6	-0.069	0.096	0.192	6	2.656	7
382	9.935	3	0.396	0.188	0.369	3	2.578	3
383	8.75	1	-0.024	0.141	0.872	2	2.857	2
384	10.49	1	0.200	0.201	0.660:	2		
385	10.68	4	0.527:	0.276:	0.360:	4	2.573	3
386	10.84	1	0.212	0.175:	0.933:	2	2.872	1
387	9.50	2	0.202	0.130	0.863	2	2.843	1
388	7.47	2	-0.001	0.103	0.512	3	2.740	1
389	10.51	1	0.142	0.217	0.842	2		
390	6.21	2	0.032	0.074	0.116	2	2.626	1
391	8.86	2	0.058	0.159	0.976	2	2.856	1
392	8.32	3	-0.042	0.120	0.644	5	2.763	1
393	7.95	2	0.068	0.127	0.819	5	2.797	1
394	9.85	3	0.113	0.194	0.891	3	2.860	3
395	9.39	2	0.140	0.110	0.788	2	2.794	2
396	8.36	2	0.284	0.169	0.415	3	2.665	1
397	6.83	4	-0.071	0.114	0.200	5	2.657	2
398	11.81	1	0.598	0.035	1.105	1	2.816	1
399	9.78	2	0.030	0.200	0.939	2	2.924	2
400	6.87	1	0.041	0.194	0.975	2	2.899	3
401	11.42	1	0.663	-0.028	0.737	2	2.755	1
402	9.79	2	0.110	0.149	1.010	2	2.870	2
403	9.60	3	0.127	0.186	0.896	3	2.837	1
404	8.61	2	0.012	0.098	0.660	3		
405	10.68	3	0.151	0.188:	0.838:	3	2.850	2
406	8.68	3	0.104	0.108	0.714	3	2.794	1
407	7.91	4	-0.037	0.107	0.411	5	2.726	5

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
408	$7^m.85$	3	$0^m.002$	$0^m.135$	$0^m.855$	3	$2^m.828$	2
409	10.67	1	0.238:	0.169:	0.572:	2		
410	7.66	2	0.170	0.241	0.849	2	2.776	1
411	9.57	2	0.071	0.161	1.039	2	2.904	1
412	10.22	2	0.263	0.048	0.733	2	2.806	1
413	7.90	1	-0.035	0.120	0.672	2	2.751	1
414			-0.061	0.104	0.010	1		
416	9.60	1	0.174	0.093	0.913	2	2.817	1
417	8.24	3	0.072	0.088	0.682	3	2.787	1
418	10.555	1	0.340	0.130	0.488	2		
419			-0.096	0.087	0.041	1	2.634	1
420	10.36	1	0.235	0.153	0.618:	2		
421							2.511	1
422	9.20	1	0.000	0.149	0.970	2	2.887	1
423	7.09	1	-0.026	0.125	0.590	2	2.734	1
424	8.75	2	-0.016	0.133	0.804	3		
425	8.08	1	-0.022	0.099	0.345	2		
426	9.32:	7	0.009	0.129	0.894	7	2.847	3
427	7.61	6	-0.046	0.116	0.428	6	2.723	5
428	9.31:	2	-0.012	0.141	0.953	2	2.870	2
429	8.69	1	0.052	0.205	0.974	2	2.879	1
430	8.49	3	0.139	0.175	1.042	3	2.823	3
431	10.47	2	0.450	0.113	0.929:	2	2.816	1
432	10.59	1	0.176	0.227	0.742	2	2.794	1
433	8.01	1	-0.021	0.126	0.779	2	2.825	2
434	9.29	2	0.009	0.156	0.991	2	2.903	1
435	8.35	1	-0.037	0.127	0.817	2	2.805	1
436	6.90	1	-0.013	0.092	0.753	2	2.744	1
437	11.48:	3	0.394:	0.056	1.263	3	2.848	2
438	9.03:	6	0.053	0.145	0.464:	7	2.740	3
439	10.50	1	0.323	0.160	0.394:	2		
441	7.565	3	-0.021	0.117	0.618	4	2.782	2
442	10.80:	2	0.515	0.239	0.290	3	2.578:	3
443	8.04	1	-0.059	0.127	0.332	2		
444	9.17	3	0.005	0.139	0.931	4	2.384	1
445	10.36	2	0.276	0.095	1.101	2	2.838	1
446	7.67	1	0.003	0.088	0.265	2		
447	9.23	4	0.016	0.142	0.966	6	2.854	5
448	10.44	4	0.350	0.152	0.438	4	2.638	2
449	10.995	1	0.358	0.061	0.922	2	2.863	1

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
450	$7^m.63$	4	$-0^m.057$	$0^m.113$	$0^m.253$	5	$2^m.674$:	3
451	10.44	1	0.475	0.116	1.028:	2		
452	10.63	3	0.117	0.164	0.841	3	2.832:	3
453	11.06	4	0.284	0.113	0.586	3	2.709:	3
454	7.03	1	0.063	0.092	0.486	2		
455	10.12	4	0.366	0.144	0.385	4	2.634	3
456	8.03	1	-0.032	0.110	0.485	2	2.730	1
457	10.155	1	0.446	0.033	0.639	2	2.760	1
458	6.22	10	-0.078	0.079	0.039	10	2.626	16
459							2.853	1
461	9.18	2	0.019	0.139	0.973	3	2.865	1
462			0.496	-0.028	0.898	1	2.746	1
464	8.79	3	0.051	0.192	1.047	3	2.892	3
465	6.985	3	-0.053	0.100	0.056	4	2.619	2
466	10.04	5	0.248	0.032:	0.657	5	2.721	4
467							2.795	1
468	7.53	4	0.158	0.203	0.744	5	2.770	5
469	7.96:	5	0.056	0.100	0.801:	6	2.695	5
470	9.36	3	0.358	0.176	0.366	4	2.594	1
471	7.915	1	-0.048	0.106	0.317	2		
472	9.03:	5	0.002	0.110	0.672	6	2.774	3
473	7.84	8	0.127	0.057	0.099	9	2.645	7
474	6.43	3	0.199	0.179	0.697	3	2.726	3
475							2.831	1
476	9.23	2	0.040	0.125	1.024	2	2.849	1
477	7.63	1	-0.028	0.097	0.213	2	2.678	1
478	11.03	4	0.334	0.119:	0.544	3	2.676:	3
479	7.74	1	-0.001	0.135	0.919	2	2.865	2
480	11.45	4	0.355	0.182:	0.458	3	2.556	2
481	8.44	4	-0.012	0.110	0.506	6	2.741	3
482	6.68	1	-0.005	0.101	0.956	2	2.766	1
483							2.799	1
484	8.17	2	0.026	0.132	0.990	3	2.853	2
485	8.84	2	0.256:	0.060:	0.306:	2	2.677	1
486	9.28	2	0.086	0.154	0.891	2	2.867	1
487	8.48	3	0.333	-0.005	0.335	3	2.628	1
488	9.54	2	0.123	0.192	0.904	2	2.855	1
489	6.75	1	0.008	0.089	0.892	2	2.699	2
490	8.28	5	0.143	0.053	0.327	5	2.696	3
491							2.859	1

TABLE 7 (continued)

Star	V	n	$b-y$	m_1	c_1	n	β	n
492	$9^m.47$	2	$0^m.188$	$0^m.225$	$0^m.787$	2	$2^m.766$	1
493	9.07	1	0.046	0.127	0.965:	2	2.766	1
494	8.79	4	0.187	0.078	0.551	5	2.740	3
495	9.20	1	0.034	0.155	1.015	2	2.915	1
496	7.54	1	0.029	0.127	0.912	2	2.849	2
497	9.79	2	0.314	0.131	1.145	2	2.841	1
498	10.23	2	0.199	0.158	0.704	2	2.774	1
499	8.72	1	0.030	0.154	0.954	2	2.886	2
500	9.15	2	0.071	0.129	1.003	2	2.873	1
501	8.13	1	0.220	0.064	1.024	2	2.781	1
502	10.415	1	0.500	-0.055	0.492	2	2.698	1
503	10.59	1	0.916	-0.070	0.210	2	2.589	1
504	7.66	1	-0.010	0.113	0.881	2	2.796	2
505	9.35	1	0.053	0.187	1.033	2		
506	7.705	1	-0.045	0.103	0.491	2	2.723	1
508	8.48	1	0.034	0.107	0.813	2	2.774	1
509	7.285	1	-0.041	0.117	0.403	2	2.711	1
510	7.23	1	-0.060	0.117	0.428	2	2.716	2
511	7.81	2	-0.026	0.122	0.872	2	2.803	2
512	9.48	1	0.178	0.078	0.768	2	2.835	1
513	9.86	1	0.155	0.075	0.837	2	2.766	1
514	7.91	1	0.078	0.217	0.973	2	2.874	2
515	7.44	1	-0.025	0.199	0.881	2	2.869	2
516	7.12	1	0.032	0.122	0.784	2	2.813	2
517	9.405	2	0.169	0.083	0.995	3	2.811	1
518	9.52	1	0.228	0.116	0.523	2	2.755	1
519	5.36	1	-0.089	0.101	0.108	2	2.622	1
520	7.91	2	-0.050	0.132	0.612	3	2.757	1
521	9.125	1	0.060	0.130	0.743	2	2.794	1
522	8.87	2	-0.010	0.155	0.942	3	2.893	1
523	8.93	2	0.337	0.016	0.630	4	2.616	2
524	8.43	1	0.119	0.229	0.863	2	2.844	2
525	6.80	1	0.010	0.112	0.621	2	2.758	2

TABLE 8

CENTENNIAL PROPER MOTIONS

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
1	-0.05	[illegible]3	2	-0.03	+0.1	4									
2	-0.14	[illegible]2	4	+0.06	-0.2	A									
3	-0.07	-[illegible]6	4												
5	-0.05	-0.2	4												
6	+0.01	-0.7	4	-0.01	-0.2	5	-0.09	-3.0	A						
7	-0.07	+0.5	4												
8	+0.07	+0.4	4	+0.03	+0.5	A									
9	-0.06	+0.1	4	-0.03	+0.9	A									
10	-0.03	-0.7	4	-0.06	+0.6	A									
11	-0.12	-0.7	4	-0.08	+1.2	A									
12	+0.09	+0.1	4	-0.04	-0.1	A									
13	-0.05	+1.6	4	-0.07	+0.7	A									
14	-0.12	-0.9	4												
15	-0.10	-0.8	4	-0.20	-1.4	5	-0.16	-1.6	A						
16	-0.01	-1.1	4	-0.15	-0.4	A									
17	-0.02	+1.8	4	-0.07	+0.9	5	-0.04	+1.0	A						
18	-0.05	+0.1	3	-0.08	-0.5	4	+0.06	-0.4	A						
19	-0.14	+0.5	4	-0.08	+0.7	5	-0.01	-0.8	A						
20	-0.11	-0.8	3	-0.04	-0.8	4	+0.01	-0.6	A						
21	-0.01	+0.3	4	+0.03	+2.6	A									
22	0.00	+3.3	4	-0.05	-1.0	A									
23	-0.06	+0.5	3	-0.05	+0.3	4	+0.19	+0.2	A						
24	-0.03	-0.1	1	-0.04	+0.1	2	-0.04	-0.1	3	-0.05	-1.6	A			
25	0.00	+1.2	2	-0.03	+0.5	4	-0.08	+0.7	5						
26	-0.14	-1.4	4	+0.03	0.0	A									
27	-0.01	+0.4	3	-0.13	+0.1	A									
28	-0.01	-1.0	4	0.00	+0.9	A									
29	-0.06	+0.8	4	+0.03	+0.4	A									
30	+0.04	-1.0	4	+0.04	-1.0	5	0.00	-0.9	A						
31	-0.06	-1.0	4												
32	-0.03	-0.4	4	+0.09	-0.5	A									
33	0.00	+1.0	4	-0.07	-0.2	A									
34	-0.03	-0.2	3	-0.09	+0.4	4	+0.19	+0.9	A						
35	-0.03	-0.9	4	-0.02	+1.4	A									
36	-0.04	+1.2	3	+0.05	-0.6	4	+0.09	-0.1	A						
37	-0.02	-0.2	2	-0.04	-0.3	3	-0.02	+0.1	4	-0.02	+0.2	6			
38	-0.04	+0.3	1	-0.04	+0.3	2	-0.06	-0.2	3	-0.03	0.0	4	-0.13	-2.4	A
39	-0.13	-0.1	4	+0.01	-0.3	A									
40	-0.16	+0.5	4	-0.07	0.0	6									
41	-0.08	-0.1	4	+0.07	-1.8	A									
42	-0.05	-1.6	4												
43	+0.05	-0.6	4	+0.04	-0.8	A									
44	-0.07	+0.2	4	+0.07	+0.4	5	-0.03	-0.4	A						
45	+0.02	+0.2	3	-0.06	+2.0	4									
46	+0.11	+0.7	4	+0.12	-0.1	A									
47	-0.05	-1.2	4	-0.14	-0.1	A									
48	+0.01	+0.4	4	-0.01	-0.4	A									
49	-0.01	-0.7	3	-0.01	-0.3	4	-0.06	-2.5	A						
50	-0.01	-2.0	4	-0.10	+0.7	5	+0.07	+1.2	A						
51	+0.10	-1.0	4	+0.11	+1.4	A									
52	-0.09	-1.[illegible]	A												
53	-0.07	-0.6	4	+0.13	-0.6	A									
54	0.00	-0.2	4	+0.04	-1.0	A									
57	+0.04	+1.1	4	-0.02	-0.6	A									
60	+0.05	-1.3	4	0.00	+1.7	A									
62	-0.18	-1.3	4												

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
63	−0.01	+0.4	4	0.00	0.0	5	−0.09	+1.0	A			
64	−0.04	−1.0	4	+0.08	−0.9	A						
65	−0.05	+0.4	4	−0.07	+2.5	A						
66	−0.07	+0.5	4	+0.01	−0.6	A						
67	−0.02	+1.3	4	+0.03	−1.7	A						
68	−0.05	−0.7	4									
69	−0.03	+0.3	3	+0.09	+0.4	4	−0.01	+1.4	A			
70	−0.10	−0.4	4									
71	−0.06	+0.2	4	+0.01	+0.7	A						
72	−0.07	−0.1	4	0.00	+0.5	A						
73	+0.02	−1.0	A									
74	−0.18	+0.1	4	−0.02	+1.7	5	+0.04	−0.1	A			
75	−0.02	−1.4	4	+0.02	+0.5	A						
76	−0.07	−0.8	2	−0.12	−1.6	4	−0.08	−0.1	A			
77	+0.01	+1.2	A									
78	−0.14	+1.4	4	+0.06	+0.4	A						
79	−0.01	−0.4	4	−0.03	+0.5	A						
80	−0.04	−1.0	4									
81	−0.16	+0.2	4	−0.08	−0.2	5						
84	−0.14	0.0	4	−0.02	−1.1	A						
85	−0.15	−0.2	4	+0.12	+0.4	A						
86	−0.24	+1.2	4	+0.07	−0.1	A						
87	−0.27	−1.5	4									
88	−0.02	+0.9	A									
89	−0.01	+1.0	4	−0.06	+0.2	7						
90	−0.23	−1.5	4	−0.14	−0.4	5	−0.09	−1.0	A			
91	−0.04	−1.2	4	−0.01	+1.2	A						
92	−0.20	+0.7	4	+0.01	−0.6	A						
93	+0.05	+1.4	7									
94	+0.11	+1.2	7									
95	−0.07	+1.3	7									
96	+0.05	−0.5	4	+0.12	−0.7	A						
97	−0.05	−1.5	4	−0.01	−1.3	A						
98	−0.04	−0.5	7									
99	−0.11	−4.2	4									
100	+0.03	+0.4	A									
101	−0.05	−0.4	3	+0.03	−0.3	4	+0.03	−0.3	A			
102	−0.14	−0.2	4	+0.07	+0.6	A						
103	−0.12	+1.4	4	−0.01	−0.5	A						
104	−0.06	+0.4	7									
105	−0.26	+2.1	4	−0.17	+1.1	7						
106	−0.19	+1.4	4									
107	−0.15	−2.1	4	+0.03	−0.6	A						
108	+0.03	−0.5	A									
109	+0.06	−1.8	4	−0.07	−0.5	7						
110	−0.20	−0.4	4	−0.09	−0.9	7						
111	+0.06	−2.9	3	+0.06	−3.3	4	+0.05	−3.2	6	−0.13	−6.1	A
112	−0.09	+0.9	4	+0.07	+0.3	A						
113	−0.05	+0.2	3	−0.13	0.0	4						
114	−0.10	−0.9	4	−0.05	+1.6	A						
115	−0.07	+0.4	4	−0.11	+0.6	5	0.00	+0.6	A			
117	−0.17	−1.0	4	+0.05	+3.4	6	−0.07	+1.9	A			
118	−0.06	+0.9	4	+0.09	+0.6	A						
119	−0.33	−2.9	4	−0.11	−1.1	7						
120	−0.14	−0.3	4	−0.03	+0.3	A						
121	−0.04	−1.5	4									

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
122	-0.03	0.0	2	-0.10	-1.3	4	-0.07	-1.7	7						
123	0.00	+0.2	3	-0.02	+0.4	4	-0.03	-1.0	A						
125	-0.01	-0.1	7												
126	-0.11	+1.2	7												
127	-0.18	-2.5	4	-0.01	-2.0	7									
128	-0.15	+1.3	4	+0.01	+0.9	7									
129	0.00	+0.6	6	+0.03	+0.5	A									
130	+0.02	-1.8	4	+0.02	-0.8	5	-0.08	+1.0	A						
132	-0.21	-0.1	4	-0.01	-1.2	A									
133	+0.01	-0.2	7												
134	-0.12	+1.0	7												
135	-0.06	+1.2	4	-0.07	+1.2	7									
136	-0.07	+0.6	4	-0.10	+0.6	A									
137	-0.03	-0.4	3	+0.03	0.0	4	+0.02	+0.8	7						
138	-0.21	-1.1	4	+0.03	+0.5	A									
139	-0.14	-0.2	4	+0.05	-0.8	6	-0.01	+0.2	A						
140	-0.03	-0.1	3	+0.03	-0.3	4									
141	-0.02	-0.1	1	-0.01	-0.1	2	-0.03	-0.1	3	-0.01	+0.2	6			
142	-0.13	+0.7	7												
143	-0.03	+3.7	A												
144	-0.14	+1.0	4	-0.07	+1.8	6	+0.01	+0.7	A						
146	-0.12	-0.1	4												
147	0.00	-1.1	3	-0.05	-0.6	4									
148	-0.22	-0.8	4	+0.03	-0.3	A									
151	0.00	+1.3	4	-0.06	-0.1	7									
152	+0.01	+0.4	7												
153	-0.13	-0.4	4	-0.03	+0.2	7									
154	-0.01	+0.4	7												
155	-0.16	+0.5	4	+0.04	+0.4	7									
156	+0.04	+0.2	4	-0.10	+1.1	A									
157	-0.08	+0.3	4	+0.03	+0.2	7									
158	-0.14	-1.2	4	+0.01	-0.4	7									
159	0.00	-0.1	3	-0.04	-0.9	4	-0.02	-2.6	A						
160	-0.13	-0.9	4	+0.09	-1.0	A									
161	+0.04	+1.2	A												
162	+0.05	+0.2	7												
163	-0.13	+0.1	4	-0.01	+0.1	A									
164	-0.17	-0.5	4	+0.02	-1.4	A									
165	+0.07	-1.0	4	-0.05	-0.2	5	-0.01	-0.8	7	0.00	-0.9	8	+0.03	-0.9	C
166	-0.13	+0.7	4	-0.02	+0.1	7									
167	-0.07	+0.2	4	-0.03	+1.9	A									
168	+0.05	-0.2	7	+0.02	0.0	8	+0.02	-0.3	C						
169	-0.23	-1.0	4	-0.12	0.0	7									
170	-0.20	+0.7	4	+0.01	-0.7	A									
171	+0.04	+1.7	4	+0.01	-0.8	5	-0.05	+0.6	7						
172	+0.15	-13.1	4	+0.17	-14.1	7									
173	-0.01	-0.8	3	-0.20	-4.0	4	-0.02	+0.5	A						
174	+0.08	-1.6	4	0.00	-1.9	A									
175	+0.01	+0.4	4	-0.03	+1.3	A									
176	-0.03	0.0	4	-0.01	+0.6	A									
177	-0.11	+0.2	4	-0.01	-0.2	7	+0.02	-0.1	8	+0.03	+0.3	C			
178	+0.05	+1.7	7	+0.06	+1.4	8	+0.07	+1.0	C						
179	0.00	+0.5	A												
180	-0.05	-0.2	4												
181	-0.03	+0.5	7												
182	-0.19	-1.7	4	-0.03	+0.2	7									

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
183	−0.16	−6.4	7	−0.16	−6.3	8	−0.16	−6.5	C						
184	−0.06	0.0	3	−0.06	+0.1	4	−0.11	−2.8	A						
185	−0.04	+1.7	7												
186	−0.07	+0.8	6	−0.01	+0.6	7	+0.02	+0.6	8	+0.03	+0.2	C			
187	−0.11	−0.1	4												
188	−0.05	+1.5	A												
190	0.00	−0.2	7	0.00	0.0	8	−0.01	0.0	C						
191	−0.43	−8.0	6	−0.35	−8.3	7	−0.32	−8.2	8	−0.32	−8.3	C			
192	+0.01	+3.7	7												
193	−0.03	−0.6	3	+0.03	+0.5	4	−0.07	+0.4	A						
194	−0.03	−0.4	4	−0.03	+1.3	A									
195	+0.01	−0.3	7	0.00	−0.1	8	+0.01	+0.1	C						
196	−0.03	+0.5	7	−0.02	+1.0	8	+0.01	+0.3	C						
197	−0.11	+0.8	4	−0.04	−1.0	A									
198	−0.01	+0.9	7	+0.01	+0.5	8	+0.01	+0.4	C						
199	+0.02	+0.4	4	+0.02	−0.3	A									
201	−0.04	−0.9	4	+0.03	−0.6	A									
202	+0.03	0.0	3	+0.02	+0.2	4	−0.01	0.0	A						
204	+0.03	−4.5	4	−0.09	−5.6	6	−0.01	−4.5	7	+0.01	−4.4	8	+0.03	−4.3	C
205	−0.12	−1.8	6	+0.02	−0.6	7	+0.03	−0.5	8	+0.01	−0.9	C			
206	−0.03	+0.5	4	0.00	+1.6	7									
207	+0.04	+2.9	7												
208	+0.02	+0.4	4	+0.03	0.0	A									
209	+0.06	+0.5	4	−0.07	+0.8	A									
210	−0.22	+0.8	4	−0.01	+0.6	A									
211	−0.12	+1.7	4												
212	−0.04	−0.8	7												
213	−0.13	−1.1	4	+0.02	+0.6	A									
215	−0.06	+1.0	6	+0.11	+1.5	7	+0.01	+0.3	8	+0.02	+0.1	C			
216	+0.12	+1.7	7	+0.01	+0.2	8	−0.01	0.0	C						
217	+0.01	+2.0	6	+0.09	+3.9	7	+0.02	+0.3	8	+0.01	−0.2	C			
218	−0.17	+0.8	4	−0.05	+0.9	7									
219	−0.08	+0.3	4	−0.13	−0.2	A									
220	+0.01	+1.7	7												
221	−0.10	−0.4	4	0.00	+1.8	A									
223	−0.02	−0.5	A												
224	0.00	+0.8	4	+0.03	+0.5	7									
225	+0.11	−0.3	4	+0.11	+0.3	7	+0.12	+0.4	8	+0.13	+0.5	C			
226	−0.06	+1.1	7	+0.01	+0.2	8	+0.02	+0.3	C						
227	+0.03	−2.7	4	−0.07	−0.9	7									
228	−0.07	−0.4	6	+0.01	−0.2	7	+0.02	+0.1	8	+0.01	−0.3	C			
229	−0.06	−0.4	6	+0.03	+0.1	7	+0.03	+0.3	8	+0.01	0.0	C			
230	−0.06	+0.2	7	−0.04	+0.3	8	−0.02	+0.1	C						
231	−0.03	−0.2	4												
232	+0.03	+0.4	7												
233	−0.01	−0.4	7	+0.02	0.0	C									
234	−0.01	+0.6	4	+0.02	+0.9	A									
235	−0.05	−0.2	A												
236	+0.15	0.0	4	+0.08	+0.6	7									
237	+0.02	+1.4	6	0.00	−0.3	7	+0.02	0.0	8	+0.02	−0.3	C			
238	0.00	−0.7	7	−0.01	−0.6	8	−0.01	−0.8	C						
239	−0.08	+1.9	4	−0.03	+1.2	7	−0.01	+1.2	8	0.00	+1.0	C			
240	−0.03	−2.0	2	−0.12	−1.1	4	−0.07	−0.2	A						
241	−0.19	−0.4	4	+0.01	+1.4	A									
242	0.00	−0.2	7	0.00	+0.2	8	0.00	+0.3	C						
243	−0.10	−4.1	4	−0.15	+1.0	6	−0.03	0.0	7	+0.01	0.0	8	0.00	−0.2	9

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
243	-0.01	+0.3	C												
244	+0.04	+0.5	7	+0.02	+0.3	8	+0.01	+0.2	C						
245	+0.05	-0.2	7	+0.03	+0.2	8	0.00	+0.2	C						
246	+0.02	+0.6	4	+0.10	0.0	5	+0.05	+0.2	7	+0.04	+0.4	8	+0.01	+0.5	C
247	-0.05	-0.4	6												
248	-0.28	+0.6	4	-0.17	+0.5	7									
249	-0.16	-1.2	4	-0.01	-1.2	5	-0.06	+0.3	7						
250	-0.05	+0.5	7												
251	+0.03	-0.2	4	+0.01	-0.9	7	+0.01	-0.2	8	+0.02	-0.5	C			
252	-0.13	0.0	6	-0.02	+0.3	7	+0.01	+0.1	8	-0.01	+0.2	C			
253	+0.02	+0.1	7	+0.03	+0.3	8	-0.01	+0.3	C						
254	-0.05	+3.4	7	-0.06	+3.6	8	-0.10	+2.5	C						
255	-0.05	+0.9	4	+0.01	+1.6	5	-0.01	+0.1	A						
256	-0.12	+0.2	4	+0.11	+0.6	A									
257	+0.06	0.0	A												
258	-0.16	+3.1	4	-0.01	+0.3	7									
259	+0.01	+0.2	7												
260	+0.03	0.0	4	+0.03	-0.9	7	+0.01	-0.2	8	+0.03	-0.9	C			
261	-0.05	+0.6	6	+0.01	-0.2	7	+0.02	-0.1	8	+0.03	-0.3	C			
262	-0.01	+1.0	6	+0.01	-0.3	7	+0.02	0.0	8	+0.01	-0.1	C			
263	0.00	0.0	7	+0.02	+0.1	8	+0.03	+0.3	9	+0.01	-0.3	C			
264	0.00	+0.3	7	+0.02	+0.6	8	+0.02	+0.5	C						
265	-0.01	-0.2	3	-0.11	0.0	4	-0.04	+0.6	6	+0.02	+0.1	7	+0.03	-0.2	8
	+0.05	-0.2	C												
266	-0.01	+0.1	3	-0.01	+0.2	4	+0.01	+0.2	6	-0.02	+0.4	7	+0.03	-0.5	8
	-0.03	-0.5	C												
267	-0.17	-1.6	4	+0.03	-2.6	A									
268	-0.03	-1.5	7	-0.01	-0.9	8	+0.01	-0.3	C						
269	-0.27	+1.5	4	-0.08	+2.0	6	-0.01	+0.3	7	0.00	+0.2	8	+0.02	-0.1	C
270	+0.07	+0.3	4	-0.11	+1.2	6	-0.01	+0.3	7	+0.01	+0.3	8	+0.01	+0.1	9
	+0.01	0.0	C												
271	-0.23	+1.8	4	-0.01	-0.4	7	+0.02	+0.4	8	0.00	0.0	C			
272	+0.02	-0.3	7	+0.02	+0.4	8	-0.01	+0.2	C						
273	-0.04	+2.3	4	+0.03	+1.2	7									
274	-0.06	+0.6	4	-0.03	-0.3	A									
276	-0.16	+0.6	4	-0.01	0.0	7									
277	-0.06	-0.2	7	-0.01	0.0	8	+0.01	-0.3	C						
278	-0.01	+0.4	7	-0.02	-0.6	8	+0.04	+0.3	9						
279	-0.17	+0.9	3	+0.02	+1.0	6	-0.01	+0.4	7	+0.02	-0.1	8			
280	-0.01	-0.1	2	-0.05	-0.2	3	-0.01	+0.2	4	-0.05	+0.6	6	0.00	+0.4	7
	-0.05	-0.4	8	+0.03	+0.2	8									
281	-0.12	+0.7	4	-0.01	+0.2	7	+0.01	+0.3	8	-0.01	+0.6	C			
282	-0.07	-0.7	4	-0.04	+0.3	7	0.00	+0.4	8	+0.04	+0.3	C			
283	-0.20	-2.1	4	0.00	-0.1	7	0.00	+0.3	8	-0.01	-0.4	C			
284	-0.06	-0.1	3	+0.11	-2.7	4	+0.01	+0.7	7						
285	-0.06	+0.3	3	-0.11	+3.0	4	-0.03	+1.5	7						
286	-0.01	-0.6	7												
287	+0.01	+0.1	7												
288	-0.19	+1.2	4	-0.04	+1.0	6	-0.03	-0.4	7	0.00	0.0	8	+0.03	0.0	C
289	-0.06	+0.8	6	-0.04	-0.4	7	-0.01	+0.2	8	+0.01	+0.3	9	+0.01	-0.1	C
290	-0.02	-0.5	7	0.00	0.0	8									
291	0.00	-0.4	7	+0.01	+0.1	8	+0.01	-0.4	C						
292	-0.12	-1.8	3	0.00	+0.4	6	+0.01	+0.3	7	+0.03	+0.4	8			
293	-0.03	-0.1	4	-0.07	+0.9	A									
294	-0.12	+0.6	4	+0.03	-1.1	A									
295	-0.04	-0.2	3	-0.01	0.0	4	-0.04	0.0	7	+0.01	-0.2	8	+0.08	-1.0	C

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
296	-0.02	+0.2	2	-0.03	+0.3	3	-0.03	+0.5	4	0.00	+0.8	6	-0.01	+0.9	7
	0.00	+0.4	8	+0.01	+0.2	B									
297	-0.13	+3.0	4	-0.03	+0.4	6	-0.03	+0.7	7	0.00	+0.1	8	+0.05	-0.1	C
298	-0.04	+0.3	7	0.00	+0.3	8	+0.03	+0.5	C						
299	+0.02	-0.2	7	+0.03	+0.4	8	0.00	0.0	C						
300	0.00	+0.4	7	+0.02	+0.5	8	-0.01	0.0	C						
301	-0.03	+0.1	1	-0.01	+0.5	2	-0.03	+0.3	3	-0.02	+0.2	6	+0.01	+0.6	7
	+0.03	-0.2	8	+0.04	+0.3	8	-0.04	-1.0	C						
302	-0.06	+0.2	3	-0.09	0.0	4									
303	-0.02	-0.2	3	-0.02	-2.1	4	-0.05	+1.2	7						
304	+0.06	-0.7	4	-0.02	0.0	7	0.00	-0.1	8	+0.02	-0.1	9	0.00	-0.3	C
305	-0.13	-0.6	4	-0.01	0.0	7	+0.02	+0.2	8	+0.01	-0.1	C			
306	-0.15	-4.0	4	+0.02	+1.2	6	-0.02	-0.6	7	+0.01	+0.1	8	+0.03	+0.2	C
307	+0.03	-0.5	4	0.00	+0.1	7	+0.01	+0.3	8	+0.04	+0.2	9	+0.05	+0.4	C
308	-0.09	+3.0	4	0.00	+0.7	7	+0.01	+0.5	8	+0.01	+0.2	9	+0.03	+0.4	C
309	+0.03	+1.4	6	0.00	-0.1	7	+0.01	+0.3	8	-0.01	+0.5	9	0.00	-0.2	C
310	-0.01	-2.3	4	+0.03	+0.4	6	+0.03	+0.5	A						
311	0.00	-0.4	6	+0.13	+1.3	A									
312	-0.12	+0.7	4												
314	+0.02	+1.1	4	-0.01	+0.8	7	-0.01	+0.8	8	+0.02	+0.5	C			
315	-0.01	0.0	7	0.00	+0.2	8	0.00	+0.1	C						
316	-0.13	+0.8	4	-0.11	-1.2	6	0.00	-0.6	7	+0.01	-0.3	8	-0.05	---	C
317	-0.05	-2.7	4	-0.11	-3.0	6	-0.07	-3.0	7	-0.06	-2.6	8	-0.10	-2.7	C
318	-0.15	+0.7	4	+0.06	+0.5	A									
319	+0.11	-0.2	7												
320	-0.07	+2.0	6	+0.01	-0.2	7	+0.01	+0.3	8	+0.02	+0.6	9	+0.02	-0.5	C
321	+0.01	0.0	7	+0.01	+0.3	8	-0.01	-0.5	C						
322	-0.03	+1.3	7												
323	+0.05	+1.0	A												
324	-0.19	-1.5	4	-0.05	-0.8	A									
325	0.00	+2.1	7												
326	-0.11	0.0	4	-0.02	+0.2	7	0.00	0.0	8	-0.02	+0.2	C			
327	+0.04	+1.2	6	0.00	+0.3	7	+0.03	+0.1	8	-0.02	+0.5	C			
328	-0.02	-0.2	1	-0.02	-0.3	2	-0.03	-0.2	3	-0.02	-0.2	6			
329	-0.04	-0.6	7	0.00	0.0	8	+0.01	+0.2	C						
330	-0.04	-0.4	7	-0.04	0.0	8	-0.07	-0.1	C						
331	-0.08	+0.5	4	-0.05	+0.2	7									
332	-0.01	+0.6	A												
334	-0.10	0.0	4	-0.07	-0.8	A									
335	-0.05	-0.2	4	+0.01	+0.6	7									
336	-0.01	+1.0	7												
337	-0.01	+2.9	7												
338	-0.13	-1.5	4	+0.03	-0.4	6	+0.06	-2.3	7	+0.08	-2.0	8	+0.07	-2.5	C
339	-0.03	-0.1	3	-0.04	-0.4	4	-0.03	+1.8	6	-0.03	+0.3	7	+0.01	+0.5	8
	-0.03	-0.2	C												
340	+0.06	+1.2	4												
341	0.00	+0.1	4	-0.02	+1.6	A									
342	-0.16	-0.8	4	-0.02	-0.4	6	-0.01	-0.9	A						
343	-0.05	-0.8	6	+0.07	-0.8	A									
344	-0.03	+1.6	4	-0.01	+0.6	6	0.00	+0.2	7	+0.02	+0.4	8	-0.03	+0.2	C
345	-0.20	-0.9	4	-0.19	+0.2	6	-0.10	-0.9	7	-0.07	-0.8	8	-0.11	-1.1	C
346	-0.04	+1.0	4	+0.02	+0.1	7									
347	+0.07	+1.0	4	-0.08	+0.4	6	-0.07	-1.5	7	-0.06	-1.0	8	-0.07	-1.3	C
348	-0.16	+0.8	6	-0.09	-0.1	7	-0.06	+0.3	8	-0.07	+0.2	C			
349	-0.06	+0.6	6	-0.01	+0.2	7	+0.01	+0.6	8	-0.03	+0.2	C			
350	-0.07	-0.2	2	-0.07	+0.2	3	-0.07	-1.2	4	-0.01	+0.5	7	0.00	0.0	8

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
350	-0.02	-0.5	C												
351	-0.09	-1.9	7												
353	-0.04	+0.6	4	-0.13	-0.4	A									
354	-0.22	-1.9	4	-0.04	+0.7	A									
355	-0.05	-0.6	6												
356	-0.30	+0.8	4	-0.01	+0.6	7	+0.03	+0.6	8	-0.01	+0.3	C			
357	+0.05	+1.2	4	-0.01	+0.4	7									
358	-0.11	+1.0	4	+0.04	-0.2	A									
359	+0.05	-2.2	6												
360	+0.01	+0.5	7												
361	+0.03	+1.5	A												
363	-0.05	+0.4	7	-0.02	+0.6	8	-0.04	+0.2	C						
364	+0.04	+1.4	7												
365	-0.05	0.0	7												
366	-0.01	+1.0	7												
367	-0.05	0.0	7												
368	-0.03	+0.2	6	-0.04	+0.3	7	0.00	+0.4	8	-0.01	+0.2	C			
369	-0.03	-0.2	7	0.00	+0.1	8	-0.03	+0.1	C						
370	+0.01	+0.2	7	+0.01	+0.7	8	-0.04	+0.1	C						
371	+0.01	-0.1	7												
372	-0.06	+2.6	4	-0.07	-2.0	6	0.00	-1.0	A						
373	+0.04	+0.2	6												
374	-0.02	-0.6	3	+0.06	+0.2	4	-0.02	+0.5	7	+0.02	0.0	8	-0.03	+0.2	C
376	-0.05	-1.6	4	+0.01	-1.4	5	-0.06	-0.6	6						
377	+0.01	+1.0	4	-0.11	-0.5	A									
378	-0.14	0.0	4	-0.10	-0.3	A									
379	-0.04	+0.6	4	-0.01	-1.7	A									
381	-0.04	-0.1	4	-0.01	+0.8	7	+0.01	+0.1	8	-0.04	-0.7	C			
382	+0.13	-3.9	4	+0.11	-4.4	7	+0.16	-4.2	8	+0.11	-4.2	C			
383	-0.15	-0.2	4	-0.06	+1.2	A									
384	+0.03	+1.3	7												
386	-0.07	-0.7	7												
387	-0.02	-0.6	7												
388	-0.07	-1.8	A												
389	-0.04	+0.4	7	-0.01	+0.7	8	-0.01	+0.3	C						
390	-0.06	+0.3	3	-0.01	+2.1	4	-0.02	+1.2	7	-0.03	0.0	8	-0.06	-0.3	C
391	-0.25	+0.2	4	-0.09	+0.6	7									
392	-0.23	-0.1	4	+0.02	-0.1	7									
393	-0.02	-0.7	A												
395	0.00	+0.4	7												
396	-0.15	-1.9	4	-0.07	-1.7	7									
397	+0.01	-0.8	4	-0.03	-1.0	5	-0.03	+0.1	A						
398	-0.05	0.0	7												
399	-0.03	-0.2	7												
400	+0.11	-1.8	2	+0.03	-3.9	4	+0.14	-3.9	5	+0.05	-2.4	7			
401	-0.06	-0.4	7												
402	-0.23	+1.9	4	-0.05	+0.3	7									
403	-0.16	-0.8	4												
404	-0.06	-0.6	4	+0.03	-0.6	A									
406	+0.01	-0.1	7												
407	-0.36	+1.2	4	+0.03	0.0	6									
408	0.00	-4.3	4	+0.07	0.0	6									
409	-0.05	-0.5	7												
410	-0.08	-0.9	4	-0.03	-1.0	7									
411	-0.25	-2.2	4	-0.10	-0.4	7									
412	-0.03	-0.2	7												

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
413	0.00	-1.5	4	-0.02	-0.7	5	+0.01	0.0	A			
414	+0.01	-0.6	3	-0.15	+1.2	4						
415	0.00	0.0	2	-0.02	0.0	3	-0.05	0.0	6	+0.02	+0.3	B
416	-0.09	-0.9	7									
417	-0.19	+0.5	4	-0.01	+0.4	7						
418	-0.09	+1.4	7									
419	-0.02	-0.8	3	-0.14	+0.2	4	+0.01	+0.2	7			
420	+0.09	+2.2	7									
421	-0.06	0.0	1	-0.03	+0.1	3	-0.04	+0.1	4	-0.17	-2.3	A
422	-0.21	+2.9	4	-0.10	+1.0	7						
423	-0.04	-1.7	4									
424	-0.09	-0.9	4	-0.07	+1.0	A						
425	-0.05	-1.1	4									
426	0.00	+2.0	6									
427	-0.03	+0.4	4	-0.03	-0.5	7						
428	-0.04	+2.5	4	-0.01	+1.2	7						
429	-0.02	+0.3	4	+0.03	+0.3	7						
430	-0.05	-1.9	4	+0.03	+0.4	6						
431	-0.09	-0.1	7									
433	+0.07	+0.6	4	-0.01	+0.8	5	-0.02	-0.2	A			
435	+0.03	-0.3	4	-0.05	-0.4	A						
436	+0.03	+0.8	4	-0.03	-0.2	5	-0.05	-2.1	A			
437	-0.03	+1.2	6									
438	-0.06	+0.6	6									
439	-0.15	-1.0	7									
440	-0.01	-0.5	3	+0.01	-1.5	4						
441	-0.12	0.0	4	-0.08	-0.4	6	-0.01	+0.2	A			
443	-0.17	+0.2	4									
444	+0.02	+2.5	4	+0.05	+1.6	7						
445	-0.04	-0.4	A									
446	-0.09	+0.3	4	-0.05	+0.2	A						
447	-0.21	+1.2	4	+0.01	+0.2	5						
448	0.00	-1.6	5									
449	-0.03	-1.2	6									
450	-0.09	0.0	4	-0.01	+1.2	6	-0.01	+1.1	A			
451	-0.06	-0.3	7									
453	-0.01	-0.8	6									
454	+0.13	-0.6	4									
455	+0.07	-1.8	6									
456	+0.03	0.0	4	-0.03	+0.2	7						
458	-0.01	+0.2	3	+0.02	+1.0	4	+0.01	-0.2	6			
459	-0.02	+0.7	7									
460	-0.03	+0.1	3	-0.01	-0.2	4	0.00	-0.2	6	+0.04	-0.2	B
462	+0.02	+0.8	7									
463	-0.02	-0.8	3	-0.11	-0.6	4						
464	-0.04	+0.2	A									
465	-0.09	+0.2	4	-0.10	-0.8	A						
467	-0.01	+0.1	7									
468	-0.05	-5.8	4	+0.03	-4.6	6	+0.01	-4.9	A			
469	-0.07	-0.2	4	+0.05	0.0	5						
471	-0.10	+1.8	4									
472	-0.06	-1.4	4									
473	+0.04	-0.5	4	+0.05	0.0	6	-0.03	+0.3	A			
474	+0.24	+3.0	4									
476	-0.20	+1.2	4									
477	-0.02	+1.6	4									

TABLE 8 (CONTINUED)

No.	μ_α	μ_δ	S	μ_α	μ_δ	S	μ_α	μ_δ	S
479	-0.04	-1.8	4						
481	-0.04	-0.7	4						
482	-0.41	-0.1	4	-0.11	-1.1	5	-0.02	-1.0	A
484	-0.11	-2.3	4	-0.07	-2.1	A			
485	-0.12	+1.5	4						
487	+0.02	+0.2	4						
489	+0.01	-1.8	4	-0.06	-1.0	5	-0.05	-0.7	A
490	-0.07	-0.3	4	+0.01	+1.5	A			
492	-0.13	-1.2	4						
493	+0.09	-1.2	4	+0.07	-1.0	5			
494	-0.15	-2.2	4	+0.04	+0.4	A			
495	+0.02	+0.8	4	-0.03	-1.0	5			
496	0.00	-1.6	4	-0.14	-1.7	A			
499	+0.03	+0.2	A						
500	-0.10	-0.9	4						
501	+0.11	-1.3	4						
502	+0.10	+2.3	4	-0.08	-1.3	A			
503	-0.07	-2.1	A						
504	-0.02	+0.5	4						
505	-0.11	-1.2	A						
506	-0.11	+0.5	4						
507	-0.02	-0.5	1	-0.05	-0.4	3			
508	-0.19	-0.6	4						
509	-0.04	+0.4	4						
510	+0.05	+0.6	4	-0.10	+0.2	A			
511	-0.17	+0.5	4	-0.07	-0.5	5	-0.06	-0.1	A
514	+0.21	-1.7	4	+0.09	-1.1	5	+0.03	-0.6	A
515	+0.01	-1.9	4	-0.01	+1.5	A			
516	-0.07	-0.1	4	-0.03	-1.0	A			
517	+0.01	+1.0	4						
519	+0.01	0.0	1	-0.02	+0.2	3	-0.02	-0.2	4
520	+0.06	+0.1	4						
521	-0.11	-0.6	4						
523	+0.02	+0.6	A						
524	-0.13	-2.7	4	-0.09	-0.9	A			
525	+0.06	-3.6	4	+0.07	+0.1	A			
526	-0.05	-0.4	3	-0.04	+2.0	4			

SOURCES.--(1) Fricke and Kopff (1963); (2) Morgan (1952); (3) Lesh (1968*b*); (4) Smithsonian Ap. Obs. (1966); (5) Gorel (1972); (6) Vyssotsky and Williams (1948); (7) Parenago (1954); (8) Ferrari d'Occhieppo and Göbel (1970); (9) Schewick (1965); (A) Dieckvoss (1971), Lacroute (1971); (B) Pavlovskaya and Karimova (1972); (C) Ahundova (1957)

TABLE 9

COMPARISON OF PROPER MOTIONS

Sources	$<\Delta\mu_\alpha>$	σ	$<\Delta\mu_\delta>$	σ	n
1-3	$+0^s.01$	$0^s.02$	$0''.0$	$0''.2$	8
2-4	+0.02	0.04	+0.3	0.8	15
3-2	-0.02	0.01	-0.05	0.2	10
3-4	0.00	0.07	-0.05	1.1	50
1,3-6	-0.02	0.06	-0.4	0.8	15
3-7	-0.04	0.05	-0.7	0.6	17
3-8	-0.06	0.05	-0.1	0.8	12
3-A*	-0.04	0.11	0.0	0.7	15
3-C	-0.01	0.03	+0.2	0.5	7
4-5	-0.02	0.10	-0.1	1.0	32
4-7	-0.06	0.09	0.0	1.3	96
4-8	-0.07	0.10	+0.1	1.4	43
8-7	+0.01	0.03	0.0	0.6	98
A-5	+0.02	0.07	-0.1	1.0	19
C-8	-0.01	0.03	-0.2	0.3	91
C-7	+0.01	0.03	0.0	0.4	82

*Due to large μ_δ deviations for bright stars in the AGK3 only 9 stars could be compared in μ_δ.

TABLE 10

MEMBERSHIP CRITERIA

	Codes				
	a	b	c	d	e
μ	2σ limits: $-0^{s}.09 \leq \mu_{\alpha} \leq 0^{s}.03$ $-1''.1 \leq \mu_{\delta} \leq 0''.9$ Motions reasonably consistent among catalogues	Proper motions inconsistent but one or more catalogues list values appropriate for membership, or average is appropriate	Proper motions consistently outside of ranges	Proper motions available from only a single source and consistent with membership	Proper motions available from only a single source and inconsistent with membership
ρ	23 ± 8 km s^{-1}	$7 \leq \rho < 15$ km s^{-1} $31 < \rho \leq 39$ km s^{-1}	$\rho < 7$ km s^{-1} $\rho > 39$ km s^{-1}		

dm subgroup*				<dm> (B-type stars)	σ(dm)	Number of stars
a	$6^{m}.9 \leq dm \leq 8^{m}.7$	$6^{m}.3 \leq dm < 6^{m}.9$ $8.7 \leq dm \leq 9.3$	$dm < 6^{m}.3$ $dm > 9.3$	$7^{m}.8$	$0^{m}.51$	96
b1	$7.2 \leq dm \leq 9.2$	$6.4 \leq dm \leq 7.2$ $9.2 \leq dm \leq 10.0$	$dm < 6.4$ $dm > 10.0$	8.2	0.61	24
b2	$7.0 \leq dm \leq 9.0$	$6.8 \leq dm \leq 7.0$ $9.0 \leq dm \leq 9.2$	$dm < 6.8$ $dm > 9.2$	8.0	0.40	40
b3	$7.0 \leq dm \leq 9.0$	$6.5 \leq dm \leq 7.0$ $9.0 \leq dm \leq 9.5$	$dm < 6.5$ $dm > 9.5$	8.0	0.51	22
c	$7.0 \leq dm \leq 9.1$	$6.6 \leq dm \leq 7.0$ $9.1 \leq dm \leq 9.6$	$dm < 6.6$ $dm > 9.6$	8.1	0.53	76
c1	$7.0 \leq dm \leq 9.0$	$6.8 \leq dm \leq 7.0$ $9.0 \leq dm \leq 9.2$	$dm < 6.8$ $dm > 9.2$	8.0	0.42	10
c2	$7.5 \leq dm \leq 9.5$	$7.0 \leq dm \leq 7.5$ $9.5 \leq dm \leq 10.0$	$dm < 7.0$ $dm > 10.0$	8.45	0.49	8
c3	$7.2 \leq dm \leq 9.2$	$3\sigma < 1$ mag	$dm < 7.2$ $dm > 9.2$	8.2	0.24	6
c4	$7.4 \leq dm \leq 9.4$	$3\sigma < 1$ mag	$dm < 7.4$ $dm > 9.4$	8.4	0.30	10
d1	$7.4 \leq dm \leq 9.4$	$6.9 \leq dm < 7.4$ $9.4 \leq dm \leq 9.9$	$dm < 6.9$ $dm > 9.9$	8.4	0.53	6

*Stars in subgroup d will not be used for distance criteria because most are peculiar and yield anomalous distances. Rather, we will infer the mean distance of the nebula stars from the mean of subgroup d1, as has been discussed earlier in the text. The mean distances of the other surrounding subgroups c1-4 support that of subgroup d1.

TABLE 11

ORION OB 1 MEMBERSHIP EVALUATION

Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d
1	a	a	a	45	a	a	a	89	b	·	a	133	d	·	·
2	b	·	a	46	c	·	a	90	b	·	a	134	e	·	a
3	d	·	b	47	b	·	a	91	b	a	a	135	c	a	a
4	·	·	a	48	b	·	c	92	b	·	a	136	b	·	a
5	d	·	a	49	a	a	a	93	e	·	·	137	a	a	a
6	a	·	a	50	b	·	a	94	e	·	·	138	b	·	a
7	d	·	a	51	c	a	a	95	e	·	·	139	b	·	a
8	a	a	a	52	d	·	a	96	c	·	b	140	a	b	a
9	a	·	c	53	b	a	a	97	c	·	c	141	a	a	a
10	b	·	a	54	b	a	a	98	d	·	·	142	e	·	a
11	b	·	c	55	·	·	a	99	e	a	a	143	e	·	a
12	b	·	b	56	·	·	a	100	d	·	a	144	b	·	a
13	b	·	a	57	b	a	a	101	a	b	a	145	·	·	a
14	e	·	b	58	·	·	a	102	b	·	a	146	d	·	a
15	c	c	c	59	·	·	a	103	b	·	a	147	b	a	a
16	b	·	a	60	b	·	a	104	d	·	·	148	b	·	a
17	b	·	a	61	·	·	a	105	c	·	·	149	·	b	a
18	a	a	a	62	e	·	a	106	e	b	a	150	·	·	a
19	b	·	a	63	b	·	a	107	b	·	a	151	b	·	a
20	b	c	·	64	c	·	a	108	d	·	a	152	d	·	a
21	b	a	b	65	b	·	a	109	b	·	a	153	b	·	a
22	b	·	b	66	b	·	a	110	b	·	·	154	d	·	·
23	a	b	a	67	b	a	a	111	c	a	c	155	b	·	a
24	a	a	a	68	d	·	a	112	b	·	a	156	b	·	a
25	b	·	a	69	b	b	a	113	b	b	a	157	a	·	a
26	b	·	a	70	e	·	a	114	b	·	a	158	b	·	·
27	b	a	a	71	a	·	a	115	b	c	a	159	a	b	a
28	b	·	a	72	a	·	a	116	·	·	a	160	b	·	a
29	b	·	a	73	e	·	a	117	b	·	a	161	e	·	a
30	b	·	a	74	b	·	a	118	b	·	a	162	d	·	a
31	d	·	a	75	b	·	a	119	c	·	a	163	b	·	a
32	b	·	a	76	b	·	c	120	b	·	c	164	b	·	a
33	b	·	a	77	e	·	a	121	e	·	a	165	b	a	b
34	a	a	a	78	b	·	a	122	b	·	c	166	b	·	a
35	b	·	a	79	b	a	a	123	a	a	a	167	b	·	a
36	b	c	a	80	e	·	a	124	·	·	a	168	b	·	a
37	a	a	a	81	b	·	b	125	d	·	a	169	c	·	a
38	a	a	a	82	·	·	c	126	e	·	·	170	b	a	a
39	b	·	a	83	·	·	a	127	c	·	·	171	b	b	a
40	b	·	a	84	b	·	a	128	b	·	b	172	c	·	c
41	b	·	a	85	b	·	a	129	b	·	a	173	b	b	a
42	e	·	a	86	b	·	a	130	b	·	a	174	c	·	a
43	a	c	b	87	e	a	c	131	·	·	a	175	b	·	a
44	b	c	a	88	d	·	a	132	b	·	a	176	a	a	a

TABLE 11 (continued)

Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d
177	a	·	a	221	b	·	a	265	a	a	a	309	a	b	a
178	c	·	a	222	·	·	a	266	a	a	a	310	a	·	a
179	d	·	a	223	d	·	c	267	c	a	a	311	b	·	a
180	d	c	c	224	a	·	a	268	b	·	·	312	e	·	a
181	d	·	a	225	c	·	c	269	b	c	a	313	·	·	a
182	b	·	a	226	b	·	·	270	a	b	b	314	b	c	c
183	c	·	·	227	b	·	a	271	b	·	a	315	a	a	a
184	a	a	a	228	a	a	a	272	b	·	b	316	b	·	a
185	e	·	a	229	b	b	a	273	c	·	a	317	c	·	c
186	a	·	a	230	a	·	a	274	a	·	a	318	b	a	a
187	e	·	a	231	d	·	a	275	·	·	a	319	e	·	·
188	e	·	c	232	d	·	c	276	b	·	a	320	b	·	·
189	·	·	a	233	a	·	a	277	a	·	b	321	a	·	c
190	a	·	a	234	a	·	a	278	b	a	a	322	e	·	a
191	c	·	·	235	d	·	a	279	b	b	·	323	e	·	a
192	e	·	·	236	b	·	a	280	a	a	·	324	b	b	a
193	a	b	a	237	b	b	a	281	a	·	a	325	e	·	·
194	b	·	a	238	a	·	b	282	a	a	a	326	a	a	a
195	a	·	a	239	c	·	·	283	b	a	a	327	a	a	a
196	b	c	a	240	b	b	a	284	a	a	a	328	a	a	a
197	b	·	a	241	b	a	a	285	b	a	a	329	a	·	a
198	a	c	a	242	a	a	a	286	d	·	a	330	a	·	a
199	a	·	a	243	b	c	c	287	d	·	a	331	a	·	a
200	·	·	a	244	a	·	·	288	b	c	a	332	d	·	a
201	a	·	a	245	a	·	a	289	a	a	·	333	·	·	a
202	a	c	a	246	b	·	a	290	a	·	·	334	b	b	b
203	·	·	a	247	d	·	a	291	a	b	·	335	b	a	a
204	c	b	c	248	c	·	a	292	b	b	·	336	e	·	·
205	a	a	a	249	b	a	a	293	b	·	a	337	e	·	·
206	b	·	a	250	d	·	b	294	b	·	a	338	c	c	c
207	e	·	·	251	a	·	a	295	a	a	a	339	a	b	a
208	a	c	c	252	a	a	a	296	a	b	·	340	e	·	a
209	b	·	a	253	a	·	a	297	a	a	·	341	b	·	a
210	b	·	a	254	c	·	·	298	a	a	a	342	b	·	a
211	e	c	a	255	b	·	a	299	a	·	a	343	b	·	a
212	d	·	·	256	b	c	a	300	a	·	a	344	a	a	a
213	b	·	a	257	d	·	a	301	a	a	a	345	c	·	c
214	·	·	a	258	b	·	a	302	a	a	a	346	b	·	a
215	b	c	a	259	d	·	a	303	b	a	a	347	c	·	a
216	b	b	c	260	a	a	a	304	a	a	b	348	b	a	a
217	b	a	b	261	a	·	a	305	a	·	a	349	a	·	c
218	b	·	a	262	a	·	a	306	b	a	a	350	b	a	a
219	b	b	a	263	a	a	a	307	a	b	a	351	e	·	·
220	e	·	·	264	a	·	a	308	a	b	a	352	·	·	a

TABLE 11 (continued)

Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d	Star	μ	ρ	d
353	b	·	b	397	b	a	a	441	b	·	a	485	e	·	a
354	b	a	a	398	d	·	a	442	·	·	·	486	·	·	a
355	d	·	a	399	d	·	a	443	e	·	a	487	d	·	a
356	b	·	c	400	c	·	c	444	c	·	a	488	·	b	a
357	b	·	a	401	d	·	a	445	d	·	a	489	b	·	a
358	b	·	a	402	b	·	a	446	a	a	a	490	b	b	a
359	e	·	a	403	e	·	a	447	b	·	a	491	·	·	a
360	d	·	·	404	a	·	a	448	e	·	b	492	e	·	a
361	e	·	a	405	·	·	a	449	e	·	a	493	c	·	a
362	·	·	a	406	d	·	a	450	b	b	a	494	b	·	a
363	a	·	a	407	b	·	a	451	d	·	·	495	b	·	a
364	e	·	·	408	b	·	b	452	·	·	a	496	c	·	b
365	d	·	·	409	d	·	·	453	d	·	a	497	·	a	a
366	e	·	·	410	b	·	c	454	e	·	a	498	·	·	a
367	d	·	a	411	c	·	a	455	e	·	c	499	d	·	a
368	a	·	a	412	d	·	a	456	a	·	a	500	e	·	a
369	a	·	·	413	b	·	a	457	·	·	a	501	e	·	c
370	a	·	·	414	a	a	a	458	b	a	a	502	b	·	b
371	d	·	·	415	a	a	a	459	d	·	a	503	e	·	b
372	b	a	a	416	d	·	a	460	a	a	a	504	d	·	a
373	e	·	a	417	b	·	a	461	·	·	a	505	e	·	·
374	a	a	b	418	e	·	·	462	d	·	b	506	e	·	a
375	·	a	a	419	a	a	a	463	a	a	a	507	a	a	a
376	b	·	b	420	e	·	·	464	d	·	a	508	e	·	a
377	b	·	a	421	a	a	a	465	b	a	b	509	d	·	a
378	c	·	a	422	c	·	a	466	·	·	a	510	b	·	a
379	b	a	a	423	e	·	a	467	d	c	a	511	b	·	a
380	·	·	a	424	b	·	a	468	c	·	c	512	·	·	a
381	b	a	a	425	e	·	a	469	b	·	b	513	·	·	b
382	c	·	c	426	e	·	a	470	·	·	c	514	c	·	c
383	b	·	a	427	b	a	a	471	e	a	a	515	b	·	b
384	e	·	·	428	c	·	a	472	e	·	a	516	b	·	a
385	·	·	·	429	a	·	b	473	a	b	a	517	e	·	a
386	d	·	a	430	b	·	a	474	e	·	c	518	·	·	a
387	d	·	c	431	d	·	b	475	·	a	b	519	a	a	a
388	e	·	a	432	·	·	a	476	e	·	a	520	d	·	a
389	a	·	·	433	b	·	a	477	e	·	a	521	e	·	a
390	b	a	a	434	·	·	a	478	·	·	a	522	·	·	a
391	b	·	a	435	a	·	a	479	e	·	c	523	d	·	a
392	b	·	a	436	b	·	a	480	·	·	·	524	c	·	c
393	d	·	a	437	e	·	·	481	d	·	a	525	b	·	b
394	·	·	a	438	d	·	a	482	b	·	b	526	a	a	a
395	d	·	a	439	e	·	·	483	·	a	a				
396	c	·	c	440	a	a	a	484	c	·	a				

APPENDIX A

CTIO *UBV* PHOTOMETRY

UBV measurements of Brun (1935) stars were carried out by J.E.H. during 1968 October-December, following the procedures of M. F. Walker (1969). Data were obtained with conventional single-channel 1P21 photometers and charge-integration techniques. A list of equatorial standards compiled by W. E. Kunkel and S. Demers [for a description of the criteria see Hartwick, Hesser and McClure (1972)] was used to transform the measures to the international system.

In Table 12 we present the mean values of the 1968 photometry in order of Brun number (since many of the stars have no WH number). Individual night means will be deposited with the National Space Science Data Center at Goddard Space Flight Center and the Centre de Données Stellaires, Strasbourg, since they may be of value in future studies of stellar variability in the Orion-Nebula region.

TABLE 12

CTIO *UBV* PHOTOMETRY

Brun	WH	*V*	*B-V*	*U-B*	*n**
12		$10^m.635$	$0^m.495$	$0^m.04$	4
17	168	10.04	0.27	0.08	4
18		12.23	0.71	0.35	4
19		10.34	0.715	0.21	6
20		13.92	0.89	0.19	1
21		11.125	1.35	1.17:	3
25	171	7.66	0.01	-0.65	6
28		11.875	0.66	0.17	4
29		11.81	1.54	1.64:	3
33		14.34	1.16	0.60	1
37		12.69	1.07	1.09:	2
42		12.28	0.94	0.39	4
49		13.83	1.44	1.22	1
56		14.77	0.96	0.56	1
62	182	8.94	0.005	-0.04	3
68	181	10.21	0.44	0.05	4
70		12.44	2.21	2.36::	4
86		13.13	0.77	0.32	1
87		11.65	0.58	0.08	3
89	185	11.45	0.51	0.02	3
91		12.07	0.64	0.15	3
111	190	11.39	0.70	0.43	4
145	198	10.71	0.41	0.05	5
146		12.03	0.71	0.215	3
159		12.59	0.87	0.59	2
172		11.33	1.46	1.39:	4
188		13.19	0.98	0.65	2
192		11.69	0.60	0.24	4
194		11.88	1.09	0.71:	3
202		12.82	0.76	0.33:	3
209		12.655	1.11	0.76:	3
216	217	10.20	0.57	0.11	4
222		11.82	0.71	0.26	4
227		13.17	0.77	0.41	1
233		12.06	0.91	0.40	3

TABLE 12 (continued)

Brun	WH	*V*	*B−V*	*U−B*	*n***
238		$13^{m}.02$ V	$0^{m}.91$ V	$0^{m}.51$ V	3/3/2
244		12.78	0.93	0.47:	3
245		13.79	0.76	0.26:	2
257		10.55	0.605	0.13	5
293		12.61	0.92	0.60	4
308		12.73	0.78	0.46	4
342	237	9.60	0.03	+0.00	6
346		11.55	0.77	0.36	3
363		13.335	1.03	0.75::	2
381	239	10.25	0.54	−0.04	5
400		13.58	1.27	1.39	1
407	244	11.21	0.66	0.145	5
425	250	9.81	0.47	0.02	4
430		10.25	1.01	0.88	4
437	251	8.86	0.05	−0.18	1
440	249	7.56	−0.12	−0.565	5
466	263	10.17	0.14	−0.01	4
490		10.57:	1.27	0.94:	11
497		11.01	1.24	0.72	4
502	269	7.835	−0.12	−0.57	11
504		12.22	0.73	0.33	3
509		13.13	0.98	0.24	3
541		12.76	1.365	0.62:	3
545	277	9.53	0.305	−0.41	4
555		11.035	0.93	0.45	4
608	288	9.34	0.04	0.00	1
655	291	9.63	0.30	−0.39	2
656	290	10.92	1.06	0.58	4
698		12.18:	0.90	0.44:	4
719		12.62	0.845	0.295:	3
757		12.54	1.39	0.77	4
760	308	8.26	0.03	−0.48	4
791		12.80	0.98	0.65:	2
871	319	11.03	0.65	0.15	3
875		12.84	0.93	0.55	1
880		13.41	1.03	0.44	1
881		13.04	1.15	0.86	1
892		11.59	0.86	0.39	4
901		13.91	1.26	0.74::	1
902		12.22	0.91	0.47	4

TABLE 12 (continued)

Brun	WH	V	$B-V$	$U-B$	n*
903	325	$11^m.38$	$0^m.59$	$0^m.08$	5
910		13.10	1.255	1.17:	1
923	330	10.46	0.415	0.015	4
928		11.40	1.01	0.88	4
929	329	9.98	0.15	-0.10	4
932		13.75	0.85	0.54	1
940	335	7.145	-0.15	-0.71	4
944		12.53	0.73	0.20	4
961		10.95	0.51	0.03	3
969		13.00	1.17	0.96::	3
973		10.98	0.59	0.08	3
983		14.14	1.26	1.13::	1
989		13.00	1.16	0.74::	2
1015		11.03	0.615	0.09	3
1025		11.39	0.51	0.04	4
1030		10.77	0.68	0.17	3
1032		11.13	0.795	0.42	4
1034		11.135	0.62	0.095	4
1037		12.14	1.81	1.83:	3/3/1
1050		11.36	0.55	-0.035	3
1051	357	9.62	0.13	0.025	4
1052		13.49	1.165	0.94	1
1054		12.51	0.79	0.30:	3
1060		11.40	0.585	0.01	4
1069	360	10.72	0.88	0.41	4
1073	363	11.30	0.37	0.17	4
1082	367	11.30	0.64	0.255	3
1083	369	11.98	1.07	0.76	4
1093		11.39	0.90	0.71:	4
1103		11.68	0.53	0.00	1
1130		11.65	0.515	0.03	3

*If all magnitudes and colors were observed on the same number of nights, only one number is shown. Otherwise the numbers are specified as n(V)/n($B-V$)/n($U-B$).

APPENDIX B

uvbyβ STANDARD-STAR OBSERVATIONS

In accord with a suggestion of Lindemann and Hauck (1973), we list in this appendix the values of the standard-star observations used to transform the new *uvbyβ* photometry reported in this paper to the standard systems. Tables 13 and 14 give the KPNO and CTIO four-color standards; Tables 15 and 16 list the standards observed for β.[9] The final row of each table shows the mean unweighted differences (standard-observed) and standard deviations for all stars.

[9]The KPNO observation of HR 3314 (Table 13), measured on one night only, appears bad and was eliminated from the reductions for the night; *UBV* photometry by several observers does not indicate variability. HR 373 was not used because late-type stars do not normally transform well using coefficients derived from early-type standards. In general we have found that standards later and earlier than about spectral type G2 should not be mixed for purposes of deriving transformation coefficients (see also Crawford and Barnes 1970*b*).

TABLE 13

KPNO OBSERVATIONS OF FOUR-COLOR STANDARDS

HR	$(b-y)$	σ	m_1	σ	c_1	σ	n
63	$0^m.021$		$0^m.178$		$1^m.052$		1
184	0.082	0.002	0.220	0.009	0.906	0.007	2
193	0.005	0.004	0.076	0.007	0.475	0.006	5
233	0.371	0.006	0.125	0.007	0.693	0.009	5
269	0.068	0.001	0.178	0.006	1.062	0.005	5
343	0.087	0.002	0.203	0.007	1.001	0.010	5
373	0.539		0.314		0.299		1
413	0.257	0.000	0.150	0.008	0.480	0.015	2
458	0.349	0.006	0.174	0.008	0.423	0.006	13
531	0.207		0.194		0.637		1
553	0.055	0.005	0.214	0.006	0.974	0.008	13
622	0.070	0.001	0.184	0.006	1.062	0.003	2
623	0.211	0.000	0.182	0.007	0.872	0.008	2
660	0.390	0.004	0.183	0.004	0.262	0.006	2
675	0.008	0.004	0.152	0.007	1.153	0.006	14
717	0.171	0.000	0.215	0.004	0.780	0.001	2
773	0.088	0.002	0.182	0.006	1.099	0.001	2
801	-0.047	0.005	0.093	0.006	0.343	0.007	16
811	-0.056		0.118		0.591		1
812	0.131	0.004	0.190	0.003	0.839	0.008	3
813	0.180		0.198		0.748		1
937	0.380	0.005	0.184	0.001	0.402	0.006	2
1017	0.282	0.002	0.214	0.000	1.070	0.001	2
1140	0.008	0.006	0.094	0.006	0.653	0.008	13
1144	-0.014	0.006	0.096	0.007	0.648	0.009	12
1178	-0.013	0.005	0.090	0.009	0.703	0.013	6
1201	0.220	0.002	0.168	0.000	0.611	0.008	2
1329	0.149		0.226		0.746		1
1331	0.163		0.189		0.791		1
1376	0.177		0.242		0.734		1
1380	0.077		0.200		0.988		1
1387	0.067		0.186		1.058		1
1389	0.016		0.179		1.053		1
1394	0.136	0.002	0.211	0.001	0.824	0.003	3
1552	-0.054	0.006	0.074	0.006	0.134	0.006	4
1861	-0.070	0.008	0.080	0.011	-0.003	0.009	57
2047	0.376	0.002	0.194	0.006	0.313	0.004	2
2763	0.040	0.001	0.199	0.001	1.053	0.003	2
2845	-0.044	0.006	0.124	0.009	0.785	0.010	17
2880	0.123	0.007	0.177	0.007	1.195	0.008	16
2886	0.033	0.008	0.142	0.010	1.180	0.006	14
2930	0.270	0.006	0.178	0.007	0.652	0.007	15
3262	0.318	0.007	0.151	0.007	0.384	0.008	15
3314	-0.019		0.175		1.000		1
3410	0.002	0.005	0.149	0.005	1.091	0.006	17

TABLE 13 (continued)

HR	$(b-y)$	σ	m_1	σ	c_1	σ	n
3454	$-0^m.085$	$0^m.004$	$0^m.094$	$0^m.006$	$0^m.237$	$0^m.007$	19
3619	0.165	0.004	0.230	0.006	0.773	0.006	21
3624	0.218	0.004	0.233	0.005	0.728	0.006	18
3759	0.297	0.004	0.170	0.006	0.446	0.007	11
3852	0.299		0.257		0.590		1
3974	0.102	0.002	0.196	0.002	0.874	0.001	2
4119	-0.062	0.008	0.107	0.008	0.478	0.001	2
4133	-0.024		0.037		-0.037		1
4456	-0.074		0.116		0.311		1
4534	0.033		0.208		0.983		1
4707	0.316	0.001	0.184	0.002	0.781	0.006	2
4753	0.292	0.011	0.169	0.014	0.608	0.007	4
4785	0.385		0.179		0.313		1
4883	0.433		0.196		0.414		1
4931	0.247	0.007	0.162	0.010	0.586	0.014	7
4983	0.371	0.007	0.191	0.009	0.344	0.008	5
5017	0.176	0.006	0.213	0.008	0.924	0.008	5
5062	0.093	0.005	0.180	0.009	0.946	0.007	8
5191	-0.083	0.005	0.111	0.009	0.306	0.008	12
5235	0.370	0.005	0.219	0.005	0.469	0.004	4
5304	0.344		0.183		0.439		1
5435	0.106	0.008	0.183	0.013	1.009	0.012	5
5447	0.256	0.004	0.137	0.004	0.490	0.014	4
5511	-0.002	0.006	0.147	0.008	1.069	0.009	7
5530	0.268		0.166		0.483		1
5531	0.062	0.003	0.213	0.006	0.971	0.002	3
5634	0.292	0.004	0.158	0.011	0.449	0.014	4
5793	-0.015	0.000	0.150	0.004	1.052	0.013	2
5936	0.233		0.153		0.667		1
5986	0.354		0.170		0.480		1
6092	-0.068	0.004	0.110	0.008	0.434	0.004	5
6095	0.156	0.004	0.198	0.001	1.004	0.008	2
6332	-0.001	0.002	0.156	0.006	1.106	0.004	4
6355	0.064		0.194		0.995		1
6588	-0.070	0.006	0.096	0.005	0.284	0.007	3
7069	0.045	0.006	0.227	0.010	0.938	0.006	3
7446	0.088	0.011	-0.001	0.007	-0.052	0.006	2
7447	-0.016	0.011	0.099	0.013	0.563	0.013	3
7796	0.381	0.005	0.307	0.011	0.881	0.007	4
7906	-0.022	0.001	0.126	0.001	0.884	0.005	2
7984	0.109	0.007	0.202	0.005	0.902	0.004	3
8143	0.150	0.005	0.030	0.004	0.559	0.011	4
8279	0.292	0.005	-0.047	0.005	0.116	0.011	7
8494	0.175	0.007	0.179	0.012	0.791	0.009	5
8585	0.005	0.005	0.150	0.011	1.042	0.009	6

TABLE 13 (continued)

HR	$(b-y)$	σ	m_1	σ	c_1	σ	n
8622	$-0^m.064$	$0^m.004$	$0^m.041$	$0^m.005$	$-0^m.110$	$0^m.003$	3
8634	-0.031		0.108		0.863		1
8665	0.336		0.153		0.404		1
8709	0.033		0.170		1.145		1
8729	0.422		0.218		0.401		1
8781	-0.010		0.127		1.120		1
8826	0.075		0.169		1.081		1
8880	0.109		0.161		1.004		1
8905	0.389		0.194		0.466		1
8969	0.331	0.003	0.164	0.004	0.396	0.002	4
9088	0.427	0.002	0.187	0.005	0.221	0.005	4
Mean	0.002	0.007	-0.001	0.010	0.001	0.011	101

TABLE 14

CTIO OBSERVATIONS OF FOUR-COLOR STANDARDS

HR	$(b-y)$	σ	m_1	σ	c_1	σ	n	Remark
100	$0^m.093$	$0^m.005$	$0^m.204$	$0^m.006$	$0^m.911$	$0^m.005$	6	
373	0.545		0.323		0.241		1	1
413	0.263	0.002	0.144	0.001	0.481	0.003	2	
493	0.488		0.337		0.325		1	1
531	0.205	0.006	0.192	0.008	0.646	0.004	9	
623	0.207	0.004	0.176	0.019	0.888	0.036	5	
801	-0.058	0.007	0.082	0.016	0.375	0.032	3	
811	-0.050	0.005	0.103	0.006	0.604	0.004	8	
812	0.137	0.007	0.189	0.012	0.845	0.020	8	
813	0.185	0.002	0.199	0.004	0.754	0.001	2	
1144	-0.021		0.102		0.651		1	
1201	0.223	0.002	0.167	0.010	0.613	0.012	2	
1292	0.232	0.008	0.164	0.009	0.601	0.005	5	
1376	0.183	0.011	0.239	0.015	0.719	0.018	5	
1380	0.098	0.007	0.190	0.007	1.002	0.044	3	2
1389	0.012		0.205		1.038		1	
1412	0.107	0.007	0.187	0.013	1.028	0.008	4	
1414	0.132		0.213		0.905		1	
1430	0.167	0.008	0.185	0.018	0.820	0.029	2	
1543	0.303	0.009	0.162	0.014	0.420	0.014	15	
1552	-0.057	0.010	0.079	0.015	0.137	0.012	16	
1620	0.083		0.192		1.036		1	
1656	0.414	0.001	0.191	0.008	0.349	0.009	3	1
1672	0.135	0.009	0.247	0.011	0.823	0.007	8	
1861	-0.073	0.008	0.071	0.013	-0.006	0.010	15	
1865	0.141		0.151		1.498		1	
2047	0.379	0.006	0.177	0.011	0.327	0.010	4	
2056	-0.069	0.007	0.108	0.012	0.411	0.012	4	
2106	-0.077	0.006	0.089	0.009	0.357	0.011	4	
2657	-0.043	0.000	0.095	0.002	0.557	0.004	2	
2707	0.185		0.212		0.823		1	2
2845	-0.027	0.019	0.109	0.023	0.799	0.012	14	
2880	0.129	0.003	0.177	0.011	1.190	0.016	3	
2927	0.287	0.012	0.175	0.009	0.651	0.011	13	
2961	-0.094		0.115		0.290		1	
3084	-0.091		0.110		0.232		1	
3131	0.044	0.001	0.160	0.004	1.121	0.006	6	
3314	-0.014	0.007	0.161	0.010	1.020	0.007	8	
3410	0.003	0.007	0.154	0.010	1.085	0.010	8	
3454	-0.088	0.009	0.091	0.017	0.237	0.018	11	
3459	0.507	0.005	0.301	0.006	0.463	0.013	9	1
3759	0.294	0.002	0.157	0.008	0.458	0.006	2	
3849	-0.068	0.008	0.102	0.013	0.401	0.006	6	
3852	0.295	0.005	0.256	0.010	0.599	0.010	4	
4119	-0.067	0.004	0.109	0.003	0.480	0.011	3	

TABLE 14 (continued)

HR	$(b-y)$	σ	m_1	σ	c_1	σ	n	Remark
4133	$-0^m.034$	$0^m.011$	$0^m.016$	$0^m.009$	$-0^m.048$	$0^m.022$	3	
4293	0.057	0.006	0.167	0.007	1.120	0.002	2	
4343	0.012	0.002	0.150	0.006	1.199	0.003	2	
4405	0.113	0.008	0.187	0.008	0.901	0.008	5	
4456	-0.071	0.009	0.099	0.015	0.329	0.015	4	
4515	0.090	0.007	0.171	0.008	0.928	0.025	3	
4527	0.351		0.188		0.726		1	
4540	0.349	0.007	0.197	0.011	0.397	0.007	6	
4618	-0.087	0.007	0.109	0.011	0.250	0.010	5	
4775	0.248	0.008	0.146	0.008	0.559	0.009	4	
4802	0.018	0.006	0.155	0.008	1.087	0.006	5	
5511	0.003		0.135		1.068		1	
7152	0.249	0.002	0.153	0.003	0.625	0.007	3	
7254	0.011	0.006	0.189	0.010	1.062	0.008	3	
7340	0.116		0.203		0.946		1	
7377	0.194		0.170		0.712		1	
7446	0.085	0.002	-0.020	0.001	-0.041	0.019	2	
7447	-0.021	0.001	0.080	0.005	0.589	0.006	2	
7602	0.518		0.288		0.354		1	1
7610	-0.021		0.180		1.024		1	
7747	0.653	0.002	0.382	0.003	0.388	0.003	2	1
7773	-0.023	0.005	0.130	0.001	1.019	0.004	4	
8181	0.326	0.005	0.123	0.017	0.316	0.032	10	
8353	-0.040		0.093		0.724		1	
8431	0.025	0.004	0.176	0.022	1.065	0.043	6	
8630	0.116	0.007	0.205	0.022	0.898	0.044	6	
8634	-0.034	0.008	0.104	0.012	0.882	0.016	5	
8665	0.325	0.008	0.146	0.015	0.403	0.029	6	
8675	0.049		0.166		1.152		1	
8729	0.400		0.230		0.384		1	1
8826	0.071	0.007	0.171	0.009	1.086	0.014	13	
8848	0.265	0.005	0.136	0.014	0.551	0.029	8	
8905	0.373		0.184		0.478		1	
8969	0.330	0.007	0.159	0.012	0.407	0.009	14	
9072	0.264	0.005	0.160	0.004	0.635	0.008	8	
9076	-0.025	0.002	0.105	0.017	0.877	0.030	4	
9088	0.430	0.007	0.173	0.011	0.236	0.012	8	
9091	-0.062	0.005	0.099	0.008	0.454	0.003	6	
Mean	0.001	0.007	0.001	0.009	0.001	0.012	74	

Remarks

1. Late-type star not used in reductions.
2. Observations appear bad--not used in reductions.

TABLE 15

NORTHERN-HEMISPHERE OBSERVATIONS OF β STANDARDS

HR	β	σ	*n*	Type	HR	β	σ	*n*	Type
27	2.671	0.005	5	AF	4031	2.724	0.005	2	AF
63	2.878	0.005	6	AF	4119	2.732	0.003	4	B
153	2.634	0.007	5	B	4166	2.593	0.006	5	AF
269	2.872	0.002	5	AF	4456	2.690	0.002	3	B
458	2.633	0.003	5	AF	4554	2.882	0.002	2	B
623	2.720	0.008	7	AF	4931	2.701		1	AF
801	2.685	0.005	7	B	5062	2.844	0.006	2	AF
812	2.800	0.004	6	AF	5447	2.689		1	AF
1144	2.746	0.008	9	B	5511	2.850	0.002	2	B
1178	2.697	0.009	7	B	6092	2.697		1	B
1341	2.763	0.005	7	B	6588	2.663		1	B
1412	2.824	0.004	2	AF	7069	2.889		1	AF
1543	2.651	0.004	3	AF	7235	2.871		1	B
1552	2.604	0.004	3	B	7377	2.731		1	AF
1641	2.679		1	B	7447	2.701		1	B
1861	2.613	0.005	24	B	7906	2.801	0.004	2	B
2047	2.598	0.004	7	AF	8143	2.588	0.006	2	B
2845	2.730	0.002	3	B	8279	2.554	0.003	2	B
2852	2.712	0.004	6	AF	8494	2.767	0.001	2	AF
3314	2.897	0.003	3	B	8585	2.917		1	B
3410	2.854	0.004	6	B	8622	2.590	0.006	2	B
3454	2.651	0.004	8	B	8969	2.630		1	AF
3849	2.703	0.006	2	B	8976	2.828		1	B
3974	2.838	0.005	5	AF	9088	2.564		1	AF
Mean	0.000	0.008	48						

TABLE 16

SOUTHERN-HEMISPHERE OBSERVATIONS OF β STANDARDS

HR	β	σ	n	Type	HR	β	σ	n	Type
623	$2^m.727$	$0^m.007$	5	AF	4119	$2^m.725$	$0^m.004$	10	B
801	2.684	0.001	3	B	4133	2.558	0.004	8	B
812	2.800	0.003	8	AF	4405	2.814	0.018	9	AF
1144	2.743	0.002	2	B	4456	2.689	0.006	8	B
1412	2.830	0.011	5	AF	4540	2.620	0.015	9	AF
1543	2.656	0.005	9	AF	5270	2.537	0.004	6	AF
1552	2.609	0.004	10	B	5511	2.841	0.007	2	B
1861	2.610	0.008	15	B	5530	2.680	0.005	3	AF
2047	2.604	0.004	4	AF	5933	2.639		1	AF
2421	2.863		1	B	5997	2.574		1	AF
2845	2.733	0.003	7	B	6355	2.872	0.005	2	AF
3314	2.893	0.007	10	B	7446	2.565	0.008	6	B
3410	2.854	0.008	13	B	7447	2.702	0.006	4	B
3454	2.650	0.005	16	B	8634	2.767	0.007	5	B
3849	2.702	0.004	13	B	8969	2.628	0.004	20	AF
Mean	0.001	0.005	30						

APPENDIX C

FINAL *uvbyβ* DATA

Table 17 lists the individual mean values of the *uvby* and Hβ photometry of various observers which have been combined for the photometric analyses to be presented in the future papers of this series. Also listed are the adopted means, as calculated by weighting according to the numbers of observations for each observer.

The components of binaries included in the measures are given beside the star numbers. Since the β observations are reduced using separate slopes in the transformation relation for B- and AF-type stars (see Crawford and Mander 1966), the types selected for the stars are given in column 8. References for the observer codes in column 9 are presented at the end of the table, as well as some more detailed notes. Parentheses surrounding a remark denote a question mark (?).

TABLE 17

FOUR-COLOR AND BETA OBSERVATIONAL DATA

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
1	-0.055	0.101	0.457	2	2.685	4	B	C	
2	-0.044	0.096	0.517	2	2.726	3	B	W	
3	0.007	0.143	0.997	2			B	W	
4	0.159	0.103	0.935	2			B	W	MIS-ID ON BETA
5	0.071	0.183	0.995	2	2.876	1	B	W	
6	-0.006	0.087	0.845	2	2.778	3	B	W	
7	-0.004	0.118	0.872	2			B	W	NOTE
8AB	-0.026	0.109	0.682	2	2.768	3	B	W	
	-0.030	0.118	0.675	3	2.773	5	B	D	NOTED AS VARIABLE
MEAN	-0.028	0.114	0.678	5	2.771	8	B		DATA CHECK WELL
9	-0.007	0.080	0.301	2	2.682	3	B	W	
10	0.039	0.109	0.771	2	2.808	3	B	W	
11	-0.031	0.072	0.102	2	2.637	3	B	W	
12	0.016	0.075	0.549	2	2.681	3	B	W	
13AB	0.051	0.101	0.758	2	2.808	2	B	W	
14AB	0.081	0.121	0.987	3	2.897	2	B	W	
15	0.007	0.138	1.133	2	2.875	3	B	W	
	-0.011	0.169	1.129	4	2.876	4	B	D	
MEAN	-0.005	0.159	1.130	6			B		(M1 VARIABLE)
16	0.017	0.091	0.623	3	2.737	3	B	W	
17	-0.034	0.076	0.263	2	2.675	3	B	W	
18	-0.019	0.080	0.150	3	2.639	3	B	C	
19	0.003	0.107	0.668	4	2.770	3	B	W	
20	-0.023	0.075	0.542	3	2.603	3	B	W	
	-0.015	0.083	0.572	3	2.592	3	B	C	
MEAN	-0.019	0.079	0.552	6	2.598	6	B		
21	-0.017	0.060	-0.004	3	2.611	3	B	C	
					2.611	1	B	S	
22	-0.023	0.108	0.721	2			B	W	
					2.781	5	B	B	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
23A	-0.040	0.092	0.298	3	2.691	3	B	C	
					2.679	4	B	B	
	-0.057	0.112	0.271	2	2.675	2	B	H	
MEAN	-0.047	0.100	0.287	5	2.682	9	B		
24	-0.067	0.082	0.168	3	2.628	3	B	C	
					2.623	5	B	B	
MEAN					2.621	2	B	S	
					2.624	8	B		
25	0.026	0.083	0.375	2			B	W	
	0.015	0.095	0.363	2	2.712	2	B	H	
					2.713	3	B	B	
MEAN	0.021	0.089	0.369	4	2.713	5	B		
26B	-0.028	0.073	0.321	2	2.678	2	B	W	
27A	-0.045	0.074	0.060	2	2.621	2	B	W	
	-0.042	0.064	0.064	4	2.617	3	B	C	
MEAN	-0.043	0.067	0.063	6	2.619	5	B		
28AB	0.020	0.107	0.805	2	2.834	2	B	W	
29	-0.023	0.102	0.546	2	2.748	2	B	W	
30	-0.035	0.100	0.769	2	2.781	2	B	W	
31A	-0.017	0.094	0.488	3	2.731	2	B	W	
32	0.003	0.119	0.959	3	2.880	2	B	W	
33	-0.046	0.091	0.369	2	2.709	2	B	W	
34	-0.091	0.084	0.055	4	2.638	3	B	C	
					2.630	39	B	B	
	-0.103	0.107	0.039	2	2.629	2	B	H	
MEAN	-0.095	0.092	0.050	6	2.631	44	B		POSSIBLY VARIABLE IN 4C
35	-0.035	0.121	0.633	3	2.775	2	B	W	
36	-0.058	0.105	0.314	4	2.681	3	B	C	
37AB	-0.059	0.088	-0.028	1			B	W	
	-0.056	0.066	-0.007	4	2.612	2	B	C	
					2.607	3	B	B	
					2.598	2	B	S	
	-0.061	0.073	-0.007	2	2.605	2	B	H	
MEAN	-0.058	0.071	-0.010	7	2.606	9	B		
38	-0.077	0.069	0.044	1			B	W	
	-0.081	0.068	0.048	2	2.574	3	B	C	
MEAN	-0.080	0.068	0.047	3			B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE OBS		REMARKS
39	-0.019:	0.135:	0.866:	4	2.837	2	B	W	MAY BE VARIABLE IN 4C
40AB	0.000	0.096	0.496	2			B	W	
					2.706	4	B	B	
41AB	-0.004	0.095	0.601	2	2.738	2	B	W	
42A	0.010	0.111	0.332	2			B	W	
	0.010	0.105	0.336	4	2.720	4	B	B	
MEAN	0.010	0.107	0.335	6	2.715	4	B	H	
					2.718	8	B		
43AB	-0.007	0.119	0.884	2	2.796	1	B	W	
					2.790	5	B	B	
MEAN					2.800	2	B	D	
					2.793	7	B		
44	-0.065	0.102	0.205	2			B	W	
	-0.079	0.114	0.205	2	2.670	5	B	B	
MEAN	-0.072	0.108	0.205	4	2.661	2	B	H	
					2.667	7	B		
45	-0.082	0.112	0.186	4	2.659	3	B	C	
46	-0.010	0.099	0.679	2	2.775	2	B	W	
47A	0.025	0.161	1.088	3	2.913	2	B	W	
48AB	0.016	0.112	0.802	2	2.803	2	B	W	
49AB	-0.082	0.073	0.028	1	2.617	1	B	W	
	-0.088	0.075	0.036	3	2.632	2	B	C	
MEAN	-0.087	0.075	0.034	4	2.627	3	B		
50	-0.014	0.107	0.751	3	2.809	2	B	W	
51	-0.061	0.090	0.304	2	2.680	2	B	W	
52	0.007	0.142	0.939	3	2.898	1	B	W	
53	-0.064	0.091	0.210	2	2.671	2	B	W	
54	-0.064	0.096	0.205	2			B	W	
					2.658	4	B	B	
55	0.067	0.164	1.002	2	2.919	1	B	W	
56	-0.006	0.115	0.917	2	2.877	2	B	W	
57	-0.057	0.100	0.334	2			B	W	
	-0.063	0.106	0.323	2	2.695	4	B	B	
MEAN	-0.060	0.103	0.329	4	2.706	2	B	H	
					2.699	6	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
58	0.051	0.132	0.910	2	2.850	1	B	W	
59	0.074	0.160	0.994	2	2.889	1	B	W	
60AB	0.003	0.107	0.635	4	2.759	1	B	W	
61	-0.030	0.175	0.961	2	2.884	1	B	W	
62	0.17	0.19	0.84	2			AF	M	
					2.781	1	AF	W	
63A	-0.019	0.113	0.785	2			B	W	
					2.783	6	B	B	
64	0.070	0.194	0.974	4	2.903	1	B	W	
65	-0.038	0.102	0.522	3	2.714	1	B	W	
66	-0.005	0.094	0.479	2			B	W	
					2.741	4	B	B	
	-0.008	0.097	0.478	2	2.737	2	B	H	
MEAN	-0.007	0.096	0.479	4	2.740	6	B		
67	-0.053	0.102	0.328	2	2.695	1	B	W	
					2.699	3	B	B	
	-0.058	0.113	0.319	4	2.686	4	B	H	
MEAN	-0.056	0.109	0.322	6	2.692	8	B		
68	0.042	0.183	0.956:	2	2.909	1	B	W	
69	-0.080	0.104	0.210	4	2.669	3	B	C	
70	-0.007	0.149	0.917:	2	2.790	1	B	W	
71	-0.033	0.096	0.440	2	2.712	2	B	W	
72AB	-0.037	0.126	0.628	2	2.766	1	B	W	
73	0.052	0.184	0.989	4	2.906	1	B	W	
74	0.023:	0.140:	0.966:	4	2.874	2	B	W	NOTE
75	-0.004	0.122	0.871	4	2.843	2	B	W	
76	-0.028	0.125	0.844	2			B	W	
					2.830	3	B	B	
77	0.087	0.091	0.715	2	2.717	1	B	W	
78	-0.044	0.096	0.420	4	2.621	1	B	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
79A	-0.061	0.095	0.351	2	2.671	1	B	W	
80	0.001	0.119	0.843	2	2.836	1	B	W	
MEAN					2.835	3	B	B	
					2.835	4	B		
81AB	0.163	0.146	0.980	2	2.766	1	AF	W	
82	0.169	0.180	0.752	2	2.788	1	AF	W	
83	0.027	0.176	0.985	4	2.921	1	B	W	
84	-0.020	0.088	0.414	2			B	W	
					2.721	3	B	B	
85AB	0.051	0.189	0.957	2	2.894	2	B	W	
86	-0.007	0.105	0.872	2			B	W	
					2.813	4	B	B	
87AB					2.836	3	B	B	
MEAN	0.003	0.143	1.028	2	2.829	3	B	D	
					2.833	6	B		
88	0.100	0.170	0.902	4	2.834	1	B	W	
89	-0.016	0.117	0.631	2	2.769	1	B	W	
90	0.045	0.093	0.543	2	2.730	2	B	W	
91A	-0.063	0.100	0.296	2	2.679	2	B	W	
92	-0.004	0.133	0.892	2	2.819	2	B	W	
93	0.365	0.148	0.505	1			AF	W	
	0.345	0.207	0.451	1			AF	G	
MEAN	0.355	0.178:	0.478:	2			AF		
94	0.285	0.203	0.974	1			B	W	
	0.227	0.167	0.945	1			B	G	
MEAN	0.256:	0.185	0.960	2			B		
95	0.342	0.108	0.446	1			AF	W	
	0.308	0.155	0.483	1			AF	G	
MEAN	0.325	0.132:	0.464	2			AF		
96	0.059	0.164	0.980	2	2.877	1	B	W	
97	0.035	0.155	1.080	2	2.872	1	B	W	
98	0.430	0.140	1.019	1			B	W	
	0.473	0.043	1.292	1			B	G	
MEAN	0.452	0.092:	1.156:	2			B		APPEARS VARIABLE

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
99	-0.036	0.096	0.387	2	2.701	1	B	W	
100	-0.051	0.119	0.567	2	2.746	1	B	W	
101					2.643	1	B	W	
MEAN	-0.088	0.094	0.099	4	2.640	4	B	C	
					2.641	5	B		
102	-0.023	0.125	0.762	2	2.803	3	B	W	
103AB	-0.006	0.099	0.680	2			B	W	
					2.798	3	B	B	
104	0.188	0.209	0.730	1			AF	W	
	0.203	0.172	0.798	1			AF	G	
MEAN	0.196	0.190	0.764:	2			AF		
105	0.259	0.160	0.590	1			AF	W	
	0.267	0.140	0.594	1			AF	G	
MEAN	0.263	0.150	0.592	2			AF		
106	0.057	0.206	0.957	3	2.897	1	AF	W	
107	-0.010	0.111	0.781	2	2.799	1	B	W	
108	-0.007	0.133	0.917	3	2.867	1	B	W	
109	-0.022	0.109	0.631	5	2.774	2	B	W	
110	0.332	0.165	0.350	1			AF	W	
	0.334	0.159	0.353	1			AF	G	
MEAN	0.333	0.162	0.352	2			AF		
111AB					2.722	2	B	W	
MEAN	-0.075	0.134	0.413	4	2.726	3	B	C	
					2.724	5	B		
112	0.012	0.151	0.976	2	2.902	1	B	W	
113	-0.080	0.093	0.117	4	2.647	1	B	W	
	-0.095	0.096	0.125:	3	2.646	4	B	C	
MEAN	-0.086	0.094	0.119	7	2.646	5	B		
114ABC	0.040	0.098	0.448	2	2.732	2	B	W	
115	-0.012	0.100	0.673	2			B	W	
					2.795	3	B	B	
116	0.038	0.180	0.987	5	2.903	1	B	W	
117AB	-0.016	0.124	0.571	2			B	W	
					2.772	3	B	B	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
118	0.005	0.112	0.591	2			B	W	
					2.776	3	B	B	
119	0.035	0.165	1.096	4	2.894	1	B	W	
120	-0.050	0.087	0.135	2	2.642	2	B	W	
121	0.015	0.149	0.991	2	2.902	1	B	W	
MEAN					2.932	3	B	B	
					2.925	4	B		
122	0.053	0.188	1.034	2	2.878	1	B	W	
123AB	-0.083	0.097	0.114	2	2.635	2	B	W	
	-0.075	0.085	0.123	4	2.633	3	B	C	
MEAN	-0.078	0.089	0.120	6	2.634	5	B		
124	0.16	0.14	0.87	2			B	M	
					2.954	1	B	W	
125	0.347	0.105		1			B	W	C1 BAD
	0.355	0.107	0.923	1			B	G	
MEAN	0.351	0.106	0.923	2			B		
126	0.344	0.154	0.508	1			AF	W	
	0.304	0.188	0.552	1			AF	G	
MEAN	0.324	0.171	0.530	2			AF		
127	0.320	0.152	0.549	1			AF	W	
	0.319	0.139	0.589	1			AF	G	
MEAN	0.320	0.146	0.569:	2			AF		
128A	0.036	0.154	0.922	3	2.885	1	B	W	
129AB	0.084	0.133	0.931	2	2.851	1	B	W	
130	-0.060	0.105	0.335	4	2.688	1	B	W	
131	0.183	0.173	0.933	2	2.825	1	B	W	
132	-0.020	0.095	0.499	4			B	W	
					2.744	4	B	B	
133	0.230	0.179	0.602	1			AF	W	
	0.297	0.130	0.610	1			AF	G	
MEAN	0.264:	0.154:	0.606	2			AF		
134	0.045	0.159	1.031	2	2.888	1	B	W	
135	0.506:	0.138:	0.982:	5	2.726	1	AF	W	NOTE

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
136A	-0.036	0.091	0.329	4	2.684	2	B	W	
137	-0.086	0.110	0.203	2	2.671	3	B	C	
138	0.007	0.107	0.835	2			B	W	
					2.799	4	B	B	
139	0.099	0.080	0.689	2	2.778	2	B	W	
140C	-0.060	0.120	0.190	2	2.665	1	B	W	
	-0.065	0.117	0.182	3	2.653	3	B	C	
					2.670	4	B	B	
MEAN	-0.063	0.118	0.185	5	2.663	8	B		
141A	-0.078	0.063	-0.131	2			B	W	
	-0.083	0.056	-0.121	2	2.574	4	B	C	
					2.561	3	B	B	
MEAN	-0.081	0.060	-0.126	4	2.568	7	B		
142	0.103	0.208	0.907	2	2.851	1	AF	W	
143	-0.047	0.110	0.462	2	2.723	1	B	W	
144	-0.045	0.134	0.518	2	2.741	1	B	W	
145	0.016	0.105	0.918	2	2.850	1	B	W	
					2.845	5	B	B	
MEAN					2.846	6	B		
146	-0.002	0.163	0.929	2	2.875	1	B	W	
147	-0.099	0.060	-0.097	1	2.596	1	B	W	
	-0.116	0.061	-0.091	3	2.598	3	B	C	
					2.592	2	B	S	
MEAN	-0.112	0.061	-0.093	4	2.596	6	B		
148	-0.034	0.110	0.345	2			B	W	
					2.703	3	B	B	
149					2.749	1	AF	W	
	0.21	0.18	0.77	4			AF	M	
150					2.864	1	B	W	
	0.08	0.17	1.05	3			B	M	
151	0.099	0.064	0.390	3	2.718	1	B	W	
	0.060	0.068	0.395	3	2.709	3	B	H	
MEAN	0.080	0.066	0.393	6	2.711	4	B		
152B	-0.003	0.173	0.977	2	2.917	2	B	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
153	-0.026	0.107	0.557	4	2.746	1	B	W	
154	0.215	0.173	0.773	1			AF	W	
	0.166	0.271	0.707	1			AF	G	
MEAN	0.190:	0.222:	0.740:	2			AF		VARIABLE
155A	-0.025	0.099	0.634	2	2.751	2	B	W	
156	-0.038	0.119	0.648	2	2.766	2	B	W	
157	-0.005	0.114	0.819	3	2.862	1	B	W	
	-0.009	0.130	0.810	3	2.822	3	B	H	
MEAN	-0.007	0.122	0.815	6	2.832	4	B		
158	0.263	0.166	0.482	1			AF	W	
	0.273	0.119	0.535	1			AF	G	
MEAN	0.268	0.142:	0.508:	2			AF		
159AB	-0.070	0.080	-0.003	54	2.613	27	B	W	
	-0.077	0.074	-0.002	52	2.612	34	B	C	STANDARD
	-0.073	0.076	-0.001	2	2.612	2	B	H	
MEAN	-0.073	0.077	-0.002	108	2.612	63	B		
160	0.015	0.112	0.854	2			B	W	
					2.821	5	B	B	
161	-0.015	0.142	0.871	2	2.842	1	B	W	
					2.848	4	B	B	
MEAN					2.847	5	B		
162	0.335	0.042	0.940	1			B	W	
	0.278	0.051	1.091	1			B	G	
MEAN	0.306	0.046	1.016:	2			B		
163	0.081	0.092	0.817	2			B	W	
					2.762	5	B	B	
164	0.018	0.141	0.950:	3			B	W	NOTE
					2.899	4	B	B	
165	0.071	0.194	0.957	2	2.876	1	AF	W	
	0.086	0.201	0.943	3	2.874	3	AF	H	
MEAN	0.080	0.198	0.949	5	2.875	4	AF		
166	-0.015	0.129	0.899	2	2.863	1	B	W	
167	-0.038	0.098	0.456	2	2.708	2	B	W	
168					2.756	1	AF	W	
	0.14	0.20	0.79	4			AF	M	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
169B	0.01	0.22	0.96	1	2.921	1	B	W	
							B	M	
170	-0.007	0.115	0.834	2			B	W	
					2.816	4	B	B	
171	0.082	0.067	0.132	3	2.658	1	B	W	
	0.061	0.067	0.140	7	2.654	4	B	S	
MEAN	0.067	0.067	0.138	10	2.657	12	B		
172A	0.355	0.177	0.343	4	2.618	1	AF	W	
173AB	-0.039	0.104	0.280	3	2.690	3	B	C	
	-0.032	0.094	0.276	2	2.691	3	B	B	
MEAN	-0.036	0.100	0.278	5	2.689	8	B		
174	0.167	0.164	0.951	3	2.795	3	AF	H	
175	0.014:	0.124:	0.915:	4	2.849	2	B	W	NOTE
176	-0.043	0.119	0.592	3	2.730	1	B	W	
177	-0.021	0.128	0.766	2	2.809	1	B	W	
	-0.011	0.117	0.778	3	2.800	3	B	H	
MEAN	-0.015	0.121	0.773	5	2.802	4	B		
178	0.273:	0.163:	0.507:	3	2.658:	3	AF	H	NOTE
179AB	0.003	0.133	0.930	2			B	W	
					2.849	4	B	B	
180	0.207	0.198	0.725	3	2.792	1	AF	W	
	0.194	0.210	0.702	3	2.759	2	AF	H	
MEAN	0.201	0.204	0.714	6	2.770	3	AF		
181	0.276	0.176	0.586	1	2.673	1	AF	W	
	0.296	0.153	0.562	3	2.656	3	AF	H	
MEAN	0.291	0.159	0.568	4	2.660	4	AF		
182	0.004	0.152	0.958	3	2.910	1	B	W	
	0.000	0.170	0.953	3	2.885	3	B	H	
MEAN	0.002	0.161	0.956	6	2.891	4	B		
183	0.382	0.153	0.304	3	2.553	3	AF	H	
184	-0.067	0.060	0.025	3	2.626	3	B	C	
MEAN					2.620	3	B	B	
					2.623	6	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
185	0.346:	0.165:	0.373:	3	2.601	3	AF	H	
186					2.874	2	AF	W	
MEAN	0.065	0.205	0.959	3	2.861	3	AF	H	
					2.866	5	AF		
187	0.047	0.147	0.959	2	2.868	1	B	W	
188	0.136	0.216	0.827	4	2.831	4	AF	H	
189	0.058	0.177	0.972	3	2.912	3	B	H	
190	0.532	0.074	0.911:	6	2.829	1	B	W	NOTE
191	0.416:	0.171	0.343	3	2.543	3	AF	H	
192	0.278	0.161	0.425	1			AF	W	
	0.283	0.136	0.414	1			AF	G	
MEAN	0.280	0.148	0.420	2			AF		
193	-0.079	0.099	0.148	2	2.654	1	B	W	
	-0.083	0.096	0.168	3	2.646	3	B	C	
MEAN	-0.081	0.097	0.160	5	2.648	4	B		
194A	0.043	0.164	0.975	3	2.922	3	B	H	
195	0.346	0.151:	0.469	3	2.615:	3	AF	H	
196	0.245	0.164		1	2.694	1	AF	W	C1 NO GOOD
	0.240	0.160	0.647	3	2.673	3	AF	H	
MEAN	0.241	0.161	0.647	4	2.678	4	AF		
197	0.062	0.077	0.464	5			B	W	
	0.035	0.102	0.468	3	2.735	3	B	B	
MEAN	0.052	0.086	0.466	8	2.726	3	B	H	
					2.731	6	B		
198	0.275	0.152	0.602	3	2.665	3	AF	H	
199	-0.021	0.102	0.602	2	2.761	2	B	W	
200	0.119	0.087	0.677	2	2.746	1	B	W	
201	-0.039	0.108	0.575	2			B	W	
					2.767	3	B	B	
202A	-0.064	0.096	0.128	3			B	W	
	-0.065	0.085	0.135	3	2.644	3	B	C	
					2.649	4	B	B	
	-0.074	0.097	0.135	3	2.646	3	B	H	
MEAN	-0.068	0.093	0.133	9	2.647	10	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
203	0.071	0.194	0.936	2	2.910	1	B	W	
204	0.307	0.165	0.435	3	2.666	3	AF	H	BETA POSSIBLY VARIABLE
	0.309	0.166	0.439	2	2.640	1	AF	W	
MEAN	0.308	0.165	0.437	5	2.660	4	AF		
205	0.256	0.211	0.742	3	2.760:	3	AF	H	BETA APPEARS VARIABLE
MEAN					2.703	1	AF	W	
					2.746:	4	AF		
206	-0.007	0.162	0.892	2	2.886	1	B	W	
207	0.259	0.176	0.628	1			AF	W	
	0.247	0.195	0.641	1			AF	G	
MEAN	0.253	0.186	0.634	2			AF		
208A	0.088	0.196	0.971	2			B	W	
					2.883	3	B	B	
209	0.003	0.132	0.884	2	2.870	1	B	W	
210	0.054	0.084	0.378	3			B	W	
					2.685	4	B	B	
211	-0.067	0.101	0.207	2			B	W	
					2.657	4	B	B	
212	0.388	0.150	0.353	2	2.585	2	AF	H	
213	0.016	0.139	0.891	2	2.880	2	B	W	
MEAN					2.870:	4	B	B	
					2.875	6	B		
214					2.821	1	AF	W	
	0.20	0.13	0.93	4			AF	M	
215	0.327	0.148	0.486	2	2.646	1	AF	W	
	0.304	0.162	0.486	3	2.632	3	AF	H	
MEAN	0.313	0.156	0.486	5	2.636	4	AF		
216	0.365	0.187	0.377:	4	2.661	1	AF	W	
217	0.389	0.134	0.443	1	2.579	1	AF	W	
	0.389	0.156	0.459	3	2.608	3	AF	H	APPEARS VARIABLE IN V
MEAN	0.389	0.151	0.455	4	2.601	4	AF		
218	0.068	0.117	0.727	3	2.792	1	B	W	
219	-0.059	0.090	0.242	2	2.667	2	B	W	
220	0.214	0.172	0.662	1			AF	W	
	0.188	0.213	0.612	1			AF	G	
MEAN	0.201	0.192:	0.637:	2			AF		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
221	0.071	0.071	0.547	3			B	W	
					2.742	4	B	B	
222	0.067	0.118	1.005	3	2.896	3	B	H	
223	0.146	0.210	0.983	2	2.812	1	AF	W	
	0.152	0.206	0.971	3	2.826	3	AF	H	
MEAN	0.150	0.208	0.976	5	2.820	4	AF		
224	-0.035	0.093	0.498	2	2.744	1	B	W	
					2.730	5	B	A	
	-0.034	0.097	0.492	3	2.710	3	B	H	
MEAN	-0.034	0.095	0.494	5	2.725	9	B		
225	0.090	0.184	1.023	2	2.839	1	AF	W	
	0.077	0.208	1.025	3	2.829	3	AF	H	
MEAN	0.082	0.198	1.024	5	2.832	4	AF		
226	0.447	0.177	0.339	3	2.497	1	AF	W	
227AB	-0.018	0.107	0.564	2	2.766	1	B	W	
					2.757	5	B	A	
	-0.020	0.113	0.557	3	2.751	3	B	H	
MEAN	-0.019	0.111	0.560	5	2.756	9	B		
228	0.161	0.168	0.914	3	2.825	1	AF	W	C1 MAY BE VARIABLE
	0.166	0.170	0.899	3	2.805	3	AF	H	
MEAN	0.164	0.169	0.907	6	2.810	4	AF		
229	0.056	0.172	1.054	3	2.881	1	B	W	
	0.044	0.199	1.036	3	2.861	3	B	H	
MEAN	0.050	0.186	1.045	6	2.866	4	B		
230	0.137	0.190	0.824	2	2.812	1	AF	W	
	0.132	0.185	0.844	3	2.819	3	AF	H	
MEAN	0.134	0.187	0.836	5	2.817	4	AF		
231	-0.016	0.151	0.915	2	2.889	1	B	W	
232					2.641	1	AF	W	
	0.370	0.169	0.430	3	2.616	3	AF	H	
MEAN					2.622	4	AF		
233	0.535	0.062	0.708	2	2.776	1	B	W	
234	0.111	0.087	0.771	2	2.755	2	B	W	
235	0.117	0.168	0.993	3	2.819	1	AF	W	
236AB	-0.022	0.107	0.482	3	2.760	1	B	W	
					2.738	5	B	A	
	-0.024	0.112	0.475	3	2.741	3	B	H	
MEAN	-0.023	0.110	0.479	6	2.741	9	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
237	0.013	0.165	1.000	3	2.912	1	B	W	
	0.008	0.173	0.976	3	2.875	3	B	H	
MEAN	0.010	0.169	0.988	6	2.884	4	B		
238	0.306	0.154	0.409	2	2.669	1	AF	W	
239C	0.399	0.114	0.309	1	2.596	1	AF	W	
	0.367	0.126	0.320	3	2.580	3	AF	H	
MEAN	0.375	0.123	0.317	4	2.584	4	AF		
240AB	-0.020	0.109	0.546	2			B	W	
					2.747	5	B	B	
241	0.022	0.107	0.618	3	2.756	1	B	W	MAY BE VARIABLE IN 4C
MEAN					2.754	4	B	B	
					2.754	5	B		
242	0.396	0.097	1.075	2	2.808	1	AF	W	
243	0.123	0.091	1.076	3			B	W	
	0.118	0.094	1.082	3	2.811	3	B	H	
MEAN	0.121	0.093	1.079	6			B		
244	0.425	0.176	0.375	2	2.512	2	AF	H	
245B	-0.014	0.141	0.919	2	2.893	1	B	W	
	0.001	0.140	0.930	3	2.862	4	B	H	
MEAN	-0.005	0.140	0.926	5	2.868	5	B		
246A	-0.039	0.107	0.450	2	2.730	1	B	W	
	-0.044	0.108	0.464	2	2.711	3	B	H	
					2.718	3	B	A	
MEAN	-0.042	0.108	0.457	4	2.717	7	B		
247	0.057	0.198	0.848	3	2.866	3	AF	H	
248	-0.068	0.116	0.486	2	2.705	1	B	W	
249	-0.039	0.097	0.397	3	2.714	1	B	W	
					2.709	6	B	A	
	-0.049	0.103	0.397	3	2.702	3	B	H	
MEAN	-0.044	0.100	0.397	6	2.707	10	B		
250					2.624	1	AF	W	
MEAN	0.315	0.152	0.474	3	2.634	3	AF	H	
					2.632	4	AF		
251	0.063	0.109	0.743	3	2.819	2	B	W	
	0.065	0.100	0.742	3	2.812	3	B	H	
MEAN	0.064	0.105	0.742	6	2.815	5	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
252	-0.006	0.123	0.719	3			B	W	
	0.000	0.110	0.732	3	2.760	3	B	H	
MEAN	-0.003	0.117	0.726	6			B		
253	0.344	0.122	0.393	2	2.611	2	AF	H	
254					2.595	1	AF	W	
MEAN	0.402	0.137	0.403	2	2.553	2	AF	H	
					2.567:	3	AF		
255	-0.042	0.096	0.441	2			B	W	
					2.716	4	B	B	
256	-0.042	0.107	0.284	2			B	W	
	-0.046	0.107	0.281	3	2.704	3	B	B	
MEAN	-0.044	0.107	0.282	5	2.692	3	B	H	
					2.698	6	B		
257	0.047	0.186:	0.853	2	2.856	1	AF	W	
	0.031	0.214	0.813	3	2.854	3	AF	H	
MEAN	0.037	0.207	0.829:	5	2.854	4	AF		
258	0.028	0.145	0.962	2	2.907	1	B	W	
					2.895	4	B	A	
	0.039	0.149	0.946	3	2.879	3	B	H	
MEAN	0.035	0.147	0.952	5	2.891	8	B		
259					2.785	1	AF	W	
MEAN	0.173	0.164	0.836	3	2.774	3	AF	H	
					2.777	4	AF		
260A	-0.013	0.090	0.297	2	2.700	2	B	W	
	-0.018	0.090	0.308	2	2.687	3	B	H	
MEAN	-0.016	0.090	0.303	4	2.692	5	B		
261	0.313	0.142	1.041	2	2.923	1	AF	W	
	0.288	0.152	1.041	3	2.903	3	AF	H	
MEAN	0.298	0.148	1.041	5	2.908	4	AF		
262	0.424	0.071	0.857:	2	2.803	1	B	W	
	0.406	0.063:	0.830	3	2.811	3	B	H	
MEAN	0.413	0.068	0.837	5	2.809	4	B		
263	0.098	0.133	0.905	4	2.791	1	B	W	
	0.098	0.129	0.944	3	2.875:	4	B	H	NOTE
MEAN	0.098	0.131	0.922:	7	2.858:	5	B		
264	-0.021	0.106	0.784	2	2.782	1	B	W	
					2.795	4	B	A	
	-0.021	0.115	0.754	2	2.785	3	B	H	
MEAN	-0.021	0.110	0.769	4	2.790	8	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
265B	-0.089	0.085	0.032	3	2.633	1	B	W	
					2.626	4	B	A	
	-0.092	0.081	0.032	3	2.624	4	B	H	
MEAN	-0.091	0.083	0.032	6	2.626	9	B		
266A	-0.099	0.069	-0.052	3	2.609	1	B	W	
					2.598	5	B	A	
	-0.110	0.076	-0.059	4	2.596	5	B	H	
MEAN	-0.105	0.073	-0.056	7	2.598	11	B		
267AB	0.034	0.117	0.947	3	2.841	3	B	H	
268B	0.430	0.251	0.301	1	2.553	1	AF	H	
269	-0.034	0.091	0.376	2	2.710	1	B	W	
	-0.066	0.115	0.386	3	2.698	3	B	H	
MEAN	-0.053	0.105	0.382	5	2.701	4	B		
270	0.144	0.020	0.142	3			B	W	
	0.136	0.004	0.151	3	2.635	3	B	H	
MEAN	0.140	0.012	0.147	6			B		
271	-0.007	0.122	0.846	3	2.847	1	B	W	POSSIBLY VARIABLE
	-0.010	0.138	0.851	3	2.837	3	B	H	
MEAN	-0.008	0.130	0.849	6	2.840	4	B		
272	0.329	0.183	0.371	2	2.649	1	AF	W	
	0.332	0.158	0.435	3	2.600	3	AF	H	
MEAN	0.331	0.168	0.409:	5	2.612:	4	AF		
273	-0.027	0.131	0.781	2	2.818	1	B	W	
274	-0.023	0.133	0.869	2	2.846	1	B	W	
275					2.798	1	AF	W	
	0.15	0.08	1.02	3			AF	M	
276	-0.011	0.119	0.851	2	2.831	2	B	W	
					2.844	5	B	A	
	-0.009	0.136	0.826	3	2.814	3	B	H	
MEAN	-0.010	0.129	0.836	5	2.832	10	B		
277	0.296	0.001	0.206	5	2.665	2	B	W	
	0.260	0.009	0.225	3	2.651	3	B	H	
MEAN	0.283	0.004	0.213	8	2.657	5	B		
278D	0.191	0.045	0.250:	3	2.615	1	B	W	NOTE
279CE	0.093	0.028	-0.046:	4	2.584	1	B	W	SEE NOTE FOR 280
280AF	0.077	0.038	-0.148:	4	2.561	1	B	W	NOTE
	0.046	0.035	-0.169	3	2.550	3	B	H	
MEAN	0.064	0.037	-0.161	7	2.553	4	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
281	-0.035	0.101	0.520	2	2.753	1	B	W	
					2.779	3	B	A	
	-0.044	0.121	0.539	3	2.748	3	B	H	
MEAN	-0.040	0.113	0.531	5	2.762	7	B		
282	-0.042	0.081	0.276	2			B	W	
					2.675	9	B	A	
	-0.048	0.093	0.261	3	2.665	3	B	H	
MEAN	-0.046	0.088	0.267	5	2.673	12	B		
283	-0.059	0.115	0.324	3	2.696	1	B	W	
					2.689	3	B	A	
	-0.054	0.097	0.340	5	2.685	5	B	H	
MEAN	-0.056	0.104	0.334	8	2.688	9	B		
284AB	-0.059	0.102	0.258	4	2.683	2	B	W	
					2.680	2	B	S	
					2.690	21	B	A	
	-0.062	0.097	0.250	3	2.679	3	B	H	
MEAN	-0.060	0.100	0.255	7	2.688	28	B		
285	-0.055	0.104	0.167	2	2.651	1	B	W	
	-0.059	0.104	0.152	3	2.641	3	B	H	
					2.636	2	B	S	
					2.642	5	B	A	
MEAN	-0.057	0.104	0.158	5	2.641	11	B		
286A	0.168	0.070	0.733	4	2.789	3	B	W	
	0.177	0.071	0.739	3	2.777	3	B	H	
MEAN	0.172	0.070	0.736	7	2.783	6	B		
287B	0.204	0.152	0.816	4	2.829	3	B	W	
	0.194	0.151	0.826	3	2.804	3	B	H	
MEAN	0.200	0.152	0.820	7	2.817	6	B		
288	0.013	0.148	1.011	2	2.883	1	B	W	
	0.019	0.147	1.002	3	2.862	3	B	H	
MEAN	0.017	0.147	1.006	5	2.867	4	B		
289	0.473	0.192	0.383	2	2.563	1	AF	W	
	0.466	0.168	0.411	3	2.569	3	AF	H	
MEAN	0.469	0.178	0.400	5	2.568	4	AF		
290	0.747	0.167:	0.304:	2	2.575	1	AF	W	
291	0.267	0.019	0.154:	4	2.710	1	B	W	NOTE
292B	0.131	0.021	-0.045:	4	2.627	1	B	W	SEE NOTE FOR 280
	0.104	0.033	-0.080	1	2.592	1	B	H	
MEAN	0.126	0.023	-0.057:	5	2.610:	2	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
293	0.037	0.104	0.736	2	2.797	1	B	W	
294	0.056	0.149	0.999	3	2.906	3	B	H	
295AB	-0.070	0.080	-0.003	2	2.623	2	B	W	
					2.613	1	B	S	
	-0.086	0.078	-0.012	3	2.615	3	B	H	
MEAN	-0.080	0.079	-0.008	5	2.617	6	B		
296A	0.025	0.041	-0.110	3	2.600	2	B	W	
	0.006	0.031	-0.106	3	2.586	3	B	H	
MEAN	0.016	0.036	-0.108	6	2.592	5	B		
297B	0.002	0.057	-0.076	3	2.611	1	B	W	
	-0.010	0.041	-0.084	3	2.595	3	B	H	
MEAN	-0.004	0.049	-0.080	6	2.599	4	B		
298B	0.024:	0.143:	1.006:	4	2.999	1	B	W	NOTE
	0.002:	0.179:	1.005	2	3.036:	2	B	H	NOTE
MEAN	0.017:	0.155:	1.006:	6	3.024:	3	B		
299	0.078	0.202	0.920	2	2.861	1	AF	W	
	0.085	0.224	0.939	2	2.846	3	AF	H	
MEAN	0.082	0.213	0.930	4	2.850	4	AF		
300	0.245	0.167	0.672	2	2.687	1	AF	W	
	0.243	0.164	0.712	2	2.676	3	AF	H	
MEAN	0.244	0.166	0.692	4	2.679:	4	AF		
301AB	-0.094	0.054	-0.103	2	2.587	3	B	C	
					2.569	1	B	S	
					2.570	3	B	A	
	-0.096	0.071	-0.137	2	2.581	2	B	H	
MEAN	-0.095	0.063	-0.120	4	2.578	9	B		
302AB	-0.052	0.115	0.291	2	2.709	1	B	W	
	-0.051	0.099	0.325	3	2.716	4	B	C	
					2.690	3	B	B	
	-0.048	0.108	0.298	2	2.698	2	B	H	
MEAN	-0.050	0.106	0.308	7	2.704	10	B		
303AB	-0.050	0.097	0.248	2	2.677	1	B	W	
					2.681	2	B	S	
					2.678	6	B	A	
	-0.060	0.096	0.243	3	2.674	3	B	H	
MEAN	-0.056	0.096	0.245	5	2.677	12	B		
304	-0.066	0.112	0.163	2	2.662	2	B	W	
	-0.072	0.103	0.152	3	2.648	3	B	H	
MEAN	-0.070	0.107	0.156	5	2.654	5	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
305	-0.013	0.127	0.789	3	2.828	2	B	W	
	-0.022	0.137	0.779	3	2.807	3	B	H	
MEAN	-0.018	0.132	0.784	6	2.815	5	B		
306	0.009	0.138	0.959	2	2.884	1	B	W	
	0.005	0.144	0.959	3	2.849	3	B	H	
MEAN	0.007	0.142	0.959	5	2.858	4	B		
307	0.264	0.011	-0.042	3	2.612	1	B	W	
	0.238	0.015	-0.057	2	2.609	3	B	H	
MEAN	0.254	0.013	-0.048	5	2.610	4	B		
308A	0.052	0.096	0.359	3	2.717	1	B	W	
	0.054	0.083	0.358	3	2.672	3	B	H	
MEAN	0.053	0.090	0.358	6	2.683	4	B		
309	0.360:	0.199:	0.748:	3	2.716	1	AF	W	NOTE
	0.374:	0.179	0.741	2	2.685	2	AF	H	
	0.38 :	0.17	0.73 :	3				M	
MEAN	0.370:	0.182	0.725:	8	2.696:	3	AF		
310A	-0.024	0.107	0.567	2	2.732	1	B	W	
					2.734	4	B	B	
MEAN					2.734	5	B		
311B	0.001	0.129	0.909	1	2.850	1	B	W	
312	-0.018	0.118	0.640	3	2.755	1	B	W	
					2.758	4	B	B	
MEAN					2.757	5	B		
313	0.010	0.132	0.878	2	2.854	1	B	W	
314A	0.144	0.189	0.984	2	2.759	2	AF	W	
	0.144	0.188	0.993	3	2.761	3	AF	H	
MEAN	0.144	0.188	0.989	5	2.760	5	AF		
315	0.023	0.183	0.970	2	2.918	1	B	W	
	0.036	0.178	0.948	3	2.884	3	B	H	
MEAN	0.031	0.180	0.957	5	2.893	4	B		
316	0.027	0.188	0.993	2	2.909	2	B	W	
	0.044	0.189	1.013	3	2.881	3	B	H	
MEAN	0.037	0.189	1.005	5	2.892	5	B		
317	0.295	0.160	0.386	4	2.657	1	AF	W	
	0.287	0.160	0.393	4	2.646	4	AF	H	
MEAN	0.291	0.160	0.390	8	2.648	5	AF		
318	0.022	0.132	0.852	2			B	W	
					2.848	4	B	B	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
319	0.408	0.175	0.394	2	2.581	2	AF	H	
320	0.319:	0.140	1.282:	2	2.798	1	AF	W	
	0.315:	0.157	1.253:	2	2.792:	2	AF	H	
MEAN	0.317:	0.148	1.268:	4	2.794:	3	AF		NOTE
321	0.502	-0.027:	0.194:	3	2.672:	3	B	H	
322	0.056	0.173	0.954	2	2.909	1	AF	W	
323	-0.001	0.180	0.940	1	2.895	1	B	H	
324	-0.012	0.094	0.473	2			B	W	
					2.733	3	B	B	
325	0.388	0.156	0.391	2	2.571	2	AF	H	
326	-0.013	0.128	0.889	2	2.849	2	B	W	
	-0.008	0.142	0.858	3	2.838	3	B	H	
MEAN	-0.010	0.136	0.870	5	2.842	5	B		
327AB	-0.032	0.110	0.365	3	2.585	1	B	W	
	-0.045	0.114	0.349	3	2.568	3	B	H	
MEAN	-0.039	0.112	0.357	6	2.572	4	B		
328A	-0.032	0.026	-0.090	3	2.557	3	B	C	
					2.542	3	B	B	
					2.530	2	B	S	
MEAN					2.545	8	B		
329	0.133	0.090	0.806	4	2.803	3	B	W	MAY BE VARIABLE
	0.125	0.089	0.798	3	2.773	3	B	H	
MEAN	0.130	0.090	0.803	7	2.788	6	B		
330	0.270	0.146	0.548	3	2.653	3	AF	H	
331	-0.012	0.094	0.570	2	2.727	1	B	W	
332	0.105	0.079	0.407	4			B	W	
					2.711	4	B	B	
333	0.117	0.179	0.905	3	2.863	3	AF	H	
334	-0.016	0.087	0.463	2			B	W	
					2.683	5	B	B	
335	-0.064	0.103	0.223	2	2.676	1	B	W	
					2.685	5	B	A	
	-0.066	0.104	0.217	4	2.668	4	B	H	
MEAN	-0.065	0.104	0.219	6	2.677	10	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
336	0.249	0.132	0.659	1			AF	W	
	0.222	0.164	0.697	1			AF	G	
MEAN	0.236	0.148	0.678	2			AF		
337	0.330	0.161	0.506	1			AF	W	
	0.251	0.242	0.508	1			AF	G	
MEAN	0.290:	0.202:	0.507	2			AF		
338	0.330	0.146	0.452	2	2.637	1	AF	W	
	0.306	0.150	0.459	3	2.611	3	AF	H	
MEAN	0.316	0.148	0.456	5	2.618	4	AF		
339	-0.077	0.096	0.148	4	2.642	1	B	W	
	-0.072	0.089	0.141	1	2.665	3	B	C	
	-0.093	0.089	0.153	3	2.640	3	B	H	
MEAN	-0.082	0.093	0.149	8	2.651	7	B		
340	-0.033	0.113	0.619	3	2.777	1	B	W	
341	-0.010	0.105	0.392	2			B	W	
					2.713	3	B	B	
342	0.014	0.122	0.760	2			B	W	
	0.017	0.120	0.750	2	2.805	3	B	B	
MEAN	0.016	0.121	0.755	4	2.800	1	B	H	
					2.804	4	B		
343	0.068	0.156	1.010	3	2.887	3	B	H	
344	-0.015	0.131	0.886	2	2.878	2	B	W	
345	0.163	0.204	0.784	2	2.776	1	AF	W	
	0.157	0.210	0.795	4	2.773	3	AF	H	
MEAN	0.159	0.208	0.791	6	2.774	4	AF		
346	-0.046:	0.147:	0.570:	3	2.789	1	B	W	NOTE
347	0.173	0.165	0.823	3	2.759	1	AF	W	
	0.164	0.171	0.835	3	2.751	3	AF	H	
MEAN	0.169	0.168	0.829	6	2.753	4	AF		
348	0.155	0.183	0.799:	3	2.769	3	AF	H	
349	0.578	-0.042	0.269	3	2.647	3	B	H	
350AB	-0.082	0.072	0.054	2	2.623	3	B	C	
351	0.188	0.210	0.659	1			AF	W	
	0.219	0.156	0.684	1			AF	G	
MEAN	0.204	0.183:	0.672	2			AF		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
352	0.023	0.133	0.926	2	2.904	1	B	W	
353ABC	0.035	0.136	0.704	2	2.816	2	B	W	
354	-0.032	0.106	0.544	4			B	W	
					2.734	4	B	B	
355	0.085	0.168	1.015	3	2.875	3	B	H	
356	0.349	0.159	0.440	4	2.623	1	AF	W	MAY BE VARIABLE
	0.366:	0.143:	0.394:	3	2.604	3	AF	H	NOTE
MEAN	0.356	0.152	0.427:	7	2.609	4	AF		
357					2.858	1	B	W	
MEAN	0.084:	0.156:	0.962:	3	2.824:	3	B	H	NOTE
					2.833:	4	B		
358	-0.048	0.109	0.397	2	2.724	1	B	W	
MEAN					2.731	3	B	B	
					2.729	4	B		
359	0.383	0.102	0.412	3	2.604:	3	AF	J	
360	0.573	0.269	0.253	2	2.529	2	AF	H	
361	0.056	0.173	0.948	2	2.886	1	B	W	
	0.058	0.167	0.950	3	2.903	4	B	H	
MEAN	0.057	0.169	0.949	5	2.900	5	B		
362	0.130	0.116	0.953	2	2.849	1	B	W	
363	0.238	0.181	0.805	1	2.811	1	AF	H	
364	0.289	0.144	1.195	1			B	W	
	0.207	0.227	1.264	1			B	G	
MEAN	0.248:	0.186:	1.230:	2			B		PROBABLY VARIABLE
365	0.145	0.224	0.812	1			AF	W	
	0.136	0.219	0.904	1	2.788	1	AF	G	
MEAN	0.140	0.222	0.858:	2			AF		
366	0.398	0.151	1.011	1			B	W	
					2.805	1	B	G	
367	0.503:	-0.009:	0.874:	3	2.768:	3	B	H	NOTE
MEAN					2.791	1	B	G	
					2.774:	4	B		
368	0.294	0.153:	0.456	2	2.646	2	AF	H	
MEAN					2.651	1	AF	G	
					2.648	3	AF		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
369	0.762	0.108	0.958	1			AF	H	
					2.726	1	AF	G	
370	0.237	0.164	0.538	1			AF	W	
	0.252	0.168	0.503	3	2.663	3	AF	H	
MEAN	0.248	0.167	0.512	4			AF		
371	0.318	0.168	0.442	1			AF	W	
	0.293	0.199	0.400	1			AF	G	
MEAN	0.306	0.184	0.421	2			AF		
372AB	-0.035	0.120	0.404	2	2.731	1	B	W	
MEAN					2.744	3	B	B	
					2.741	4	B		
373	0.044	0.161	1.034	5	2.879	1	B	W	
374	-0.094	0.089	0.019	3	2.618	3	B	C	
	-0.089	0.075	0.020	14	2.616	14	B	H	
MEAN	-0.090	0.077	0.020	17	2.616	17	B		
375	0.079	0.204	0.926	2	2.900	1	AF	W	
376	0.029	0.177	0.892	2	2.888	2	B	W	
	0.031	0.186	0.898	3	2.882	3	B	J	
MEAN	0.030	0.182	0.896	5	2.884	5	B		
377B	-0.044	0.091	0.451	2	2.712	1	B	W	
378A	-0.024	0.091	0.458	2	2.641	1	B	W	
379	-0.051	0.104	0.391	2			B	W	
					2.730	4	B	B	
380	0.037	0.157	1.017	2	2.914	1	B	W	
381	-0.062	0.087	0.218	2	2.651	3	B	W	
	-0.073	0.101	0.179	4	2.660	4	B	H	
MEAN	-0.069	0.096	0.192	6	2.656	7	B		POSSIBLY VARIABLE IN C1
382	0.396	0.188	0.369	3	2.578	3	AF	H	
383	-0.024	0.141	0.872	2	2.857	2	B	W	
384	0.202	0.193	0.710	1			AF	W	
	0.197	0.209	0.610	1			AF	G	
MEAN	0.200	0.201	0.660:	2			AF		
385	0.527:	0.276:	0.360:	4	2.573	3	AF	J	
386	0.212	0.175:	0.933:	2	2.872	1	AF	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
387	0.202	0.130	0.863	2	2.843	1	AF	W	
388AB	-0.001	0.103	0.512	3	2.740	1	B	W	
MEAN					2.737	3	B	B	
					2.738	4	B		
389	0.137	0.217	0.868	1			B	W	
	0.147	0.217	0.815	1			B	G	
MEAN	0.142	0.217	0.842	2			B		
390	0.032	0.074	0.116	2	2.626	1	B	W	
	0.014	0.071	0.136	2	2.623	3	B	C	
MEAN	0.023	0.073	0.126	4	2.624	4	B		
391AB	0.058	0.159	0.976	2	2.856	1	B	W	
392	-0.042	0.120	0.644	5	2.763	1	B	W	
393CD	0.068	0.127	0.819	5	2.797	1	B	W	
394	0.113	0.194	0.891	3	2.860	3	AF	H	
395	0.140	0.110	0.788	2	2.794	2	B	W	
396	0.284	0.169	0.415	3	2.665	1	AF	W	
397	-0.068	0.113	0.200	3			B	W	
	-0.075	0.116	0.201	2	2.665	3	B	B	
MEAN	-0.071	0.114	0.200	5	2.657	2	B	H	
					2.662	5	B		
398	0.598	0.035	1.105	1			B	W	
					2.816	1	B	G	
399	0.030	0.200	0.939	2	2.924	2	B	W	
400	0.041	0.194	0.975	2	2.899	3	B	W	
401	0.663	-0.028	0.737	2	2.755	1	B	W	
402	0.110	0.149	1.010	2	2.870	2	B	W	
403	0.127	0.186	0.896	3	2.837	1	AF	W	
404AB	0.012	0.098	0.660	3			B	W	
					2.758	3	B	B	
405	0.151	0.188:	0.838:	3	2.850	2	AF	J	
406AB	0.104	0.108	0.714	3	2.794	1	B	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
407	-0.038	0.105	0.412	2	2.731	2	B	W	
	-0.037	0.109	0.410	3	2.722	3	B	J	
MEAN	-0.037	0.107	0.411	5	2.726	5	B		
408	0.002	0.135	0.855	3	2.828	2	B	J	
409	0.276	0.117	0.609	1			AF	W	
	0.201	0.221	0.535	1			AF	G	
MEAN	0.238:	0.169:	0.572:	2			AF		
410	0.170	0.241	0.849	2	2.776	1	AF	W	
411	0.071	0.161	1.039	2	2.904	1	AF	W	
412	0.263	0.048	0.733	2	2.806	1	B	W	
413	-0.035	0.120	0.672	2	2.751	1	B	W	
414E	-0.061	0.104	0.010	1			B	W	
	-0.072	0.097	0.049	3	2.586	1	B	C	
					2.602	3	B	B	
MEAN	-0.069	0.099	0.039	4	2.598	4	B		
415AB	-0.084	0.053	-0.082	3	2.612	3	B	C	
					2.598	3	B	B	
MEAN					2.605	6	B		
416	0.174	0.093	0.913	2	2.817	1	B	W	
417	0.072	0.088	0.682	3	2.787	1	B	W	
418B	0.355	0.118	0.481	1			AF	W	
	0.326	0.141	0.496	1			AF	G	
MEAN	0.340	0.130	0.488	2			AF		
419A	-0.096	0.087	0.041	1	2.634	1	B	W	
	-0.084	0.086	0.090	2	2.636	3	B	C	
MEAN	-0.088	0.086	0.074:	3	2.636	4	B		POSSIBLY VARIABLE IN C1
420	0.217	0.170	0.665	1			AF	W	
	0.253	0.136	0.570	1			AF	G	
MEAN	0.235	0.153	0.618:	2			AF		
421					2.511	1	B	W	
	-0.016	0.060	0.184	2	2.576	3	B	C	
MEAN					2.560:	4	B		PROBABLY VAR. IN BETA
422	0.000	0.149	0.970	2	2.887	1	B	W	
423	-0.026	0.125	0.590	2	2.734	1	B	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
424	-0.016	0.133	0.804	3			B	W	
					2.833	3	B	B	
425	-0.022	0.099	0.345	2			B	W	
					2.699	3	B	B	
426	0.010	0.127	0.891	4			B	W	
					2.850	3	B	B	
	0.006:	0.132	0.899	3	2.847	3	B	J	
MEAN	0.009	0.129	0.894	7	2.849	6	B		
427	-0.041	0.095	0.442	2	2.720	1	B	W	
	-0.049	0.127	0.421	4	2.724	4	B	H	
MEAN	-0.046	0.116	0.428	6	2.723	5	B		POSSIBLY VARIABLE IN 4C
428	-0.012	0.141	0.953	2	2.870	2	B	W	
429	0.052	0.205	0.974	2	2.879	1	B	W	
430	0.139	0.175	1.042	3	2.823	3	B	J	
431	0.450	0.113	0.929:	2	2.816	1	AF	W	
432	0.176	0.227	0.742	2	2.794	1	B	W	
433	-0.021	0.126	0.779	2	2.825	2	B	W	
434	0.009	0.156	0.991	2	2.903	1	B	W	
MEAN					2.914	3	B	B	
					2.911	4	B		
435	-0.037	0.127	0.817	2	2.805	1	B	W	
436	-0.013	0.092	0.753	2	2.744	1	B	W	
437	0.394:	0.056	1.263	3	2.848	2	AF	J	
438	0.055	0.138	0.479:	4			B	W	NOTE
					2.746	3	B	B	
	0.051	0.154	0.445:	3	2.740	3	B	J	
MEAN	0.053	0.145	0.464:	7	2.743	6	B		
439	0.336	0.134	0.442	1			AF	W	
	0.309	0.185	0.347	1			AF	G	
MEAN	0.323	0.160	0.394:	2			AF		
440	-0.047	0.106	0.494	2.5	2.714	3	B	C	
441	-0.021	0.114	0.622	2			B	W	
					2.786	3	B	B	
	-0.021	0.120	0.614	2	2.782	2	B	H	
MEAN	-0.021	0.117	0.618	4	2.784	5	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
442	0.515	0.239	0.290	3	2.578:	3	AF	J	
443	-0.059	0.127	0.332	2			B	W	
					2.703	3	B	B	
444	0.005	0.139	0.931	4	2.884	1	B	W	
445	0.276	0.095	1.101	2	2.838	1	B	W	
446	0.003	0.088	0.265	2			B	W	
					2.665	3	B	B	
447	0.014	0.138	0.969	3	2.856	1	B	W	
	0.019	0.147	0.964	3	2.874	3	B	B	
MEAN	0.016	0.142	0.966	6	2.854	4	B	J	
					2.862	8	B		
448	0.350	0.152	0.438	4	2.638	2	AF	J	
449	0.358	0.061	0.922	2	2.863	1	B	W	
450	-0.055	0.114	0.248	2			B	W	
	-0.058	0.112	0.256	3	2.690	3	B	B	
MEAN	-0.057	0.113	0.253	5	2.674:	3	B	J	
					2.685	6	B		
451	0.491	0.104	1.064	1			B	W	
	0.459	0.129	0.992	1			B	G	
MEAN	0.475	0.116	1.028:	2			B		
452	0.117	0.164	0.841	3	2.832:	3	B	H	NOTE
453	0.284	0.113	0.586	3	2.709:	3	B	J	
454	0.063	0.092	0.486	2			B	W	
					2.682	3	B	B	
455	0.366	0.144	0.385	4	2.634	3	AF	J	
456	-0.032	0.110	0.485	2	2.730	1	B	W	
457	0.446	0.033	0.639	2	2.760	1	B	W	
458	-0.075	0.053	0.065	3	2.636	3	B	C	
					2.634	4	B	B	
	-0.078	0.079	0.039	10	2.626	16	B	J	
MEAN	-0.077	0.073	0.045	13	2.629	23	B		
459	0.08	0.21	0.91	2	2.853	1	AF	W	

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
460AB	-0.061	0.033	-0.121	3	2.570	2	B	C	
MEAN					2.561	4	B	B	
					2.564	6	B		
461	0.019	0.139	0.973	3	2.865	1	B	W	
462	0.496	-0.028	0.898	1			B	W	
					2.746	1	B	G	
463	-0.095	0.098	0.098	3	2.626	3	B	C	
MEAN					2.636	4	B	B	
					2.632	7	B		
464	0.051	0.192	1.047	3	2.892	3	AF	H	
465	-0.052	0.100	0.055	2			B	W	
	-0.054	0.101	0.057	2	2.640	3	B	B	
MEAN	-0.053	0.100	0.056	4	2.639	2	B	H	
					2.632	5	B		
466	0.264	0.004	0.657	2	2.722	1	B	W	
	0.237	0.051	0.657	3	2.721	3	B	J	
MEAN	0.248	0.032:	0.657	5	2.721	4	B		
467					2.795	1	AF	W	
	0.20	0.18	0.94	3			AF	M	
468	0.154	0.204	0.740	2	2.768	2	AF	W	
	0.161	0.202	0.746	3	2.771	3	AF	J	
MEAN	0.158	0.203	0.744	5	2.770	5	AF		
469	0.062	0.099	0.772:	3	2.692	2	B	W	C1=0.773,0.832,0.710.
	0.050	0.101	0.830	3	2.697	3	B	J	C1=0.854,0.833,0.802.
MEAN	0.056	0.100	0.801:	6	2.695	5	B		INDIVIDUAL C1 OBS. AVGD
470	0.358	0.176	0.366	4	2.594	1	AF	W	
471	-0.048	0.106	0.317	2			B	W	
					2.703	3	B	B	
MEAN					2.693	1	B	S	
					2.701	4	B		
472	0.008	0.105	0.670	3			B	W	
	-0.005	0.115	0.675	3	2.786	3	B	B	
MEAN	0.002	0.110	0.672	6	2.774	3	B	J	
					2.780	6	B		
473	0.132	0.069	0.089	2			B	W	
	0.127	0.055	0.093	4	2.646	3	B	B	
	0.124	0.051	0.114	3	2.640	4	B	H	
MEAN	0.127	0.057	0.099	9	2.652	3	B	J	
					2.645	10	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
474AB	0.199	0.179	0.697	3	2.726	3	AF	J	
475									
	0.19	0.18	0.87	5	2.831	1	AF	W	
							AF	M	
476	0.040	0.125	1.024	2	2.849	1	B	W	
477	-0.028	0.097	0.213	2	2.678	1	B	W	
478	0.334	0.119:	0.544	3	2.676:	3	AF	J	
479	-0.001	0.135	0.919	2	2.865	2	B	W	
480	0.355	0.182:	0.458	3	2.556	2	AF	J	
481	-0.011	0.105	0.505	3			B	W	
	-0.013	0.115	0.507	3	2.739	3	B	B	
MEAN	-0.012	0.110	0.506	6	2.741	3	B	J	
					2.740	6	B		
482	-0.005	0.101	0.956	2	2.766	1	B	W	
483									
	0.15	0.20	0.85	6	2.799	1	AF	W	
							AF	M	
484	0.026	0.132	0.990	3	2.853	2	B	W	
485	0.256:	0.060:	0.306:	2	2.677	1	B	W	
486	0.086	0.154	0.891	2	2.867	1	B	W	
487	0.333	-0.005	0.335	3	2.628	1	B	W	
488	0.123	0.192	0.904	2	2.855	1	AF	W	
489	0.008	0.089	0.892	2	2.699	2	B	W	
490	0.138	0.070	0.313	2			B	W	
	0.146	0.030:	0.337	3	2.704	3	B	B	
MEAN	0.143	0.053	0.327	5	2.696	3	B	J	
					2.700	6	B		
491									
	0.13	0.10	1.00	3	2.859	1	B	W	
							B	M	
492	0.188	0.225	0.787	2	2.766	1	AF	W	
493	0.046	0.127	0.965:	2	2.766	1	B	W	
494	0.188	0.079	0.551	4			B	W	
	0.183	0.076	0.553	1	2.754	3	B	B	
MEAN	0.187	0.078	0.551	5	2.740	3	B	H	
					2.747	6	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
495	0.034	0.155	1.015	2	2.915	1	B	W	
496AB	0.029	0.127	0.912	2	2.849	2	B	W	
497	0.314	0.131	1.145	2	2.841	1	AF	W	
498	0.199	0.158	0.704	2	2.774	1	AF	W	
499	0.030	0.154	0.954	2	2.886	2	B	W	
500	0.071	0.129	1.003	2	2.873	1	B	W	
501	0.220	0.064	1.024	2	2.781	1	B	W	
502C	0.500	-0.055	0.492	2	2.698	1	B	W	
503AB	0.916	-0.070	0.210	2	2.589	1	B	W	
504	-0.010	0.113	0.881	2	2.796	2	B	W	
505A	0.053	0.187	1.033	2			B	W	NO BETA MEASURED
506	-0.045	0.103	0.491	2	2.723	1	B	W	
507	-0.036	0.026	-0.084	2	2.564	4	B	C	
508	0.034	0.107	0.813	2	2.774	1	B	W	
509A	-0.041	0.117	0.403	2	2.711	1	B	W	
510	-0.060	0.117	0.428	2	2.716	2	B	W	
511	-0.026	0.122	0.872	2	2.803	2	B	W	
512	0.178	0.078	0.768	2	2.835	1	B	W	
513	0.155	0.075	0.837	2	2.766	1	B	W	
514	0.078	0.217	0.973	2	2.874	2	B	W	
515	-0.025	0.199	0.881	2	2.869	2	B	W	
516	0.032	0.122	0.784	2	2.813	2	B	W	
517	0.169	0.083	0.995	3	2.811	1	B	W	
518	0.228	0.116	0.523	2	2.755	1	B	W	
519	-0.089	0.101	0.108	2	2.622	1	B	W	
	-0.098	0.091	0.099	2	2.647	3	B	C	
MEAN	-0.094	0.096	0.104	4	2.641	4	B		

TABLE 17 (continued)

STAR	B-Y	M1	C1	N	BETA	N	TYPE	OBS	REMARKS
520A	-0.050	0.132	0.612	3	2.757	1	B	W	
521	0.060	0.130	0.743	2	2.794	1	B	W	
522	-0.010	0.155	0.942	3	2.893	1	B	W	
523	0.337	0.016	0.630	4	2.616	2	B	W	
524	0.119	0.229	0.863	2	2.844	2	B	W	
525AB	0.010	0.112	0.621	2	2.758	2	B	W	
526	-0.080	0.077	0.108	1	2.650	3	B	C	

SOURCES.--(A) Heiser (1973); (B) Crawford and Barnes (1966); (C) Crawford, Barnes and Golson (1971); (D) Crawford, Barnes, Golson and Hube (1973); (M) Smith (1972); (S) Sinnerstad, Arkling, Alm and Brattlund (1969); (G,H,J,W) This paper (Table 7).

NOTES TO TABLE 17

STAR	NOTES
7	STAR WAS MIS-IDENTIFIED ON BETA OBSERVATION BUT UVBY DATA SEEM TO CHECK WITH HD SPECTRAL TYPE OF B9.
74	VARIABLE IN 4C. (B-Y)=0.006;0.030;0.015;0.042; M1=0.163;0.123; 0.170;0.103; C1=0.932;1.000;0.933;1.000.
135	VARIABLE IN 4C. (B-Y)=0.509;0.503;0.537;0.488;0.495 (5 OBS); M1=0.104;0.154;0.118;0.165;0.149 (5 OBS); C1=1.054;0.935;0.969; 0.969 (4 OBS).
164	VARIABLE IN C1. OBSERVATIONS GIVE 0.909;0.960;0.981.
175	VARIABLE IN 4C. OBSERVATIONS GIVE (B-Y)=0.021;-0.010;0.014;0.033; M1=0.120;0.154;0.135;0.086; C1=0.918;0.883;0.900;0.961.
178	VARIABLE. 3 OBSERVATIONS GIVE (B-Y)=0.269;0.301;0.250; M1=0.177; 0.132;0.181; C1=0.506;0.529;0.487; BETA=2.637;2.676;2.664.
190	VARIABLE IN C1. OBSERVATIONS SHOW 0.982;0.833;0.967;0.924;0.894; 0.864 (6 NIGHTS).
263	BETA VARIABLE. 4 OBSERVATIONS GIVE 2.828;2.845;2.860;2.929.
278	(B-Y) AND M1 INDICES CHECK WELL. C1 VARIATIONS MAY BE ASSOCIATED WITH NEBULA. ACCORDING TO AN EPHEMERIS COMPUTED, ALL OBSERVATIONS WERE MADE OUTSIDE OF ECLIPSE.
280	(B-Y) AND M1 INDICES CHECK WELL. C1 VARIATIONS MAY BE ASSOCIATED WITH NEBULA.
291	VARIABLE IN C1 BUT MAY BE NEBULA PROBLEM. V SHOWS VARIABILITY ALSO, HOWEVER.
298	VARIABLE. (B-Y)=-0.026;0.054;0.057;0.012; M1=0.172;0.127;0.113; 0.159; C1=1.000;1.004;0.979;1.041. BETA UNUSUALLY HIGH FOR A0 V STAR. V SHOWS VARIABILITY ALSO. CODE H OBSERVATIONS; (B-Y)=-0.009;+0.014; M1=0.193;0.165; C1=1.005; BETA=3.071;3.002.
309	VARIABLE IN ALL INDICES. CODE W; (B-Y)=0.324;0.341;0.416; M1=0.220;0.184;0.192; C1=0.725;0.619;;0.772; BETA=2.716. CODE H; (B-Y)=0.355;0.394; M1=0.184;0.174; C1=0.750;0.733; BETA=2.681;2.690. CODE M; (B-Y)=0.28;0.45;0.40; M1=0.18;0.17;0.15; C1=0.64;0.77;0.79. AVERAGES OF ALL OBSERVATIONS ARE USED AS MEANS.
320	VARIABLE (T ORIONIS). (B-Y)=0.306;0.333; M1=0.144;0.137; C1=1.299; 1.264 (CODE W). (B-Y)=0.349;0.281; M1=0.163;0.152; C1=1.280;1.226; BETA=2.741;2.843 (CODE H).

NOTES TO TABLE 17 (continued)

STAR	NOTES
346	VARIABLE. (B-Y)=-0.021;-0.060;-0.058; M1=0.114;0.148;0.180; C1=0.554;0.612;0.544.
356	APPEARS VARIABLE. (B-Y)=0.389;0.368;0.341; M1=0.120;0.186;0.142; C1=0.426;0.478 (1 BAD C1).
357	VARIABLE. 3 OBSERVATIONS SHOW (B-Y)=0.102;0.080;0.071; M1=0.178; 0.158;0.134; C1=0.935;0.989;0.963; BETA=2.793;2.843;2.838.
367	APPEARS VARIABLE. (B-Y)=0.520;0.505;0.488; M1=-0.040;-0.016;+0.028; C1=0.931;0.877;0.816; BETA=2.750;2.784;2.771 (CODE H).
438	VARIABLE IN C1. C1= 0.503;0.426;0.548;0.438. SMALL VARIATIONS MAY BE PRESENT IN OTHER COLORS.
452	BETA VARIABLE. 4 OBSERVATIONS GIVE 2.821;2.792;2.890;2.878.

FIGURE CAPTIONS

FIG. 1.— Chart of the Orion OB 1 region made from a 5-minute-exposure 103a-O plate taken with the 25.4-cm photographic refractor at Goethe Link Observatory on 19 December 1971. The original plate scale is 119 arcsec mm^{-1}. A few images near bright stars have been put in by hand, since overexposure blotted them out on the prints. Program stars are identified by their WH numbers defined by Table 1. The approximate plate center is at $\alpha = 5^h\ 13^m$ (1900) $\delta = -5°$.

FIG. 2.— Same as Figure 1 for $\alpha = 5^h\ 13^m$, $\delta = +2°$

FIG. 3.— Same as Figure 1 for $\alpha = 5^h\ 37^m$, $\delta = +2°$

FIG. 4.— Same as Figure 1 for $\alpha\ \ 5^h\ 37^m$, $\delta = -5°$

FIG. 5.— Reproduction of the field around the Orion Nebula for stars brighter than apparent visual magnitude 12. Known variables are identified by their names and program stars by their WH numbers.

FIG. 6.— Schematic diagram of the Orion OB 1 association on which the approximate subgroups and subdivisions of the present study are delineated. Bright stars are identified by their Bayer or Flamsteed designations (NU is NU Ori) for orientation purposes.

FIG. 7.— V_0, $M_V(\beta)$ membership diagram for subgroup a. *Open symbols* represent probable non-members while *dashed lines* are the membership distance limits given in Table 1.

FIG. 8.– Same as Figure 7 for subdivision b1

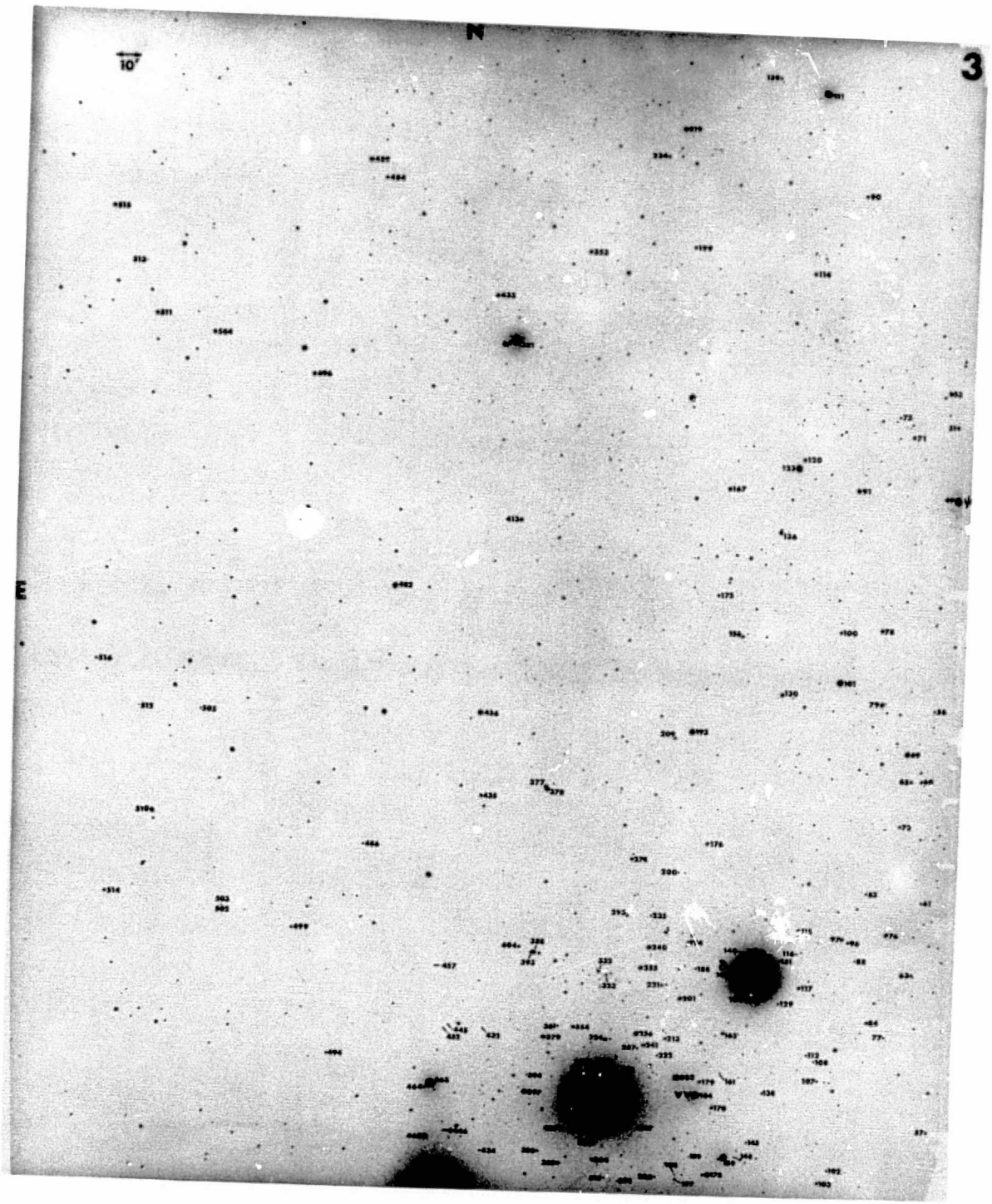
FIG. 9.– Same as Figure 7 for subdivision b2

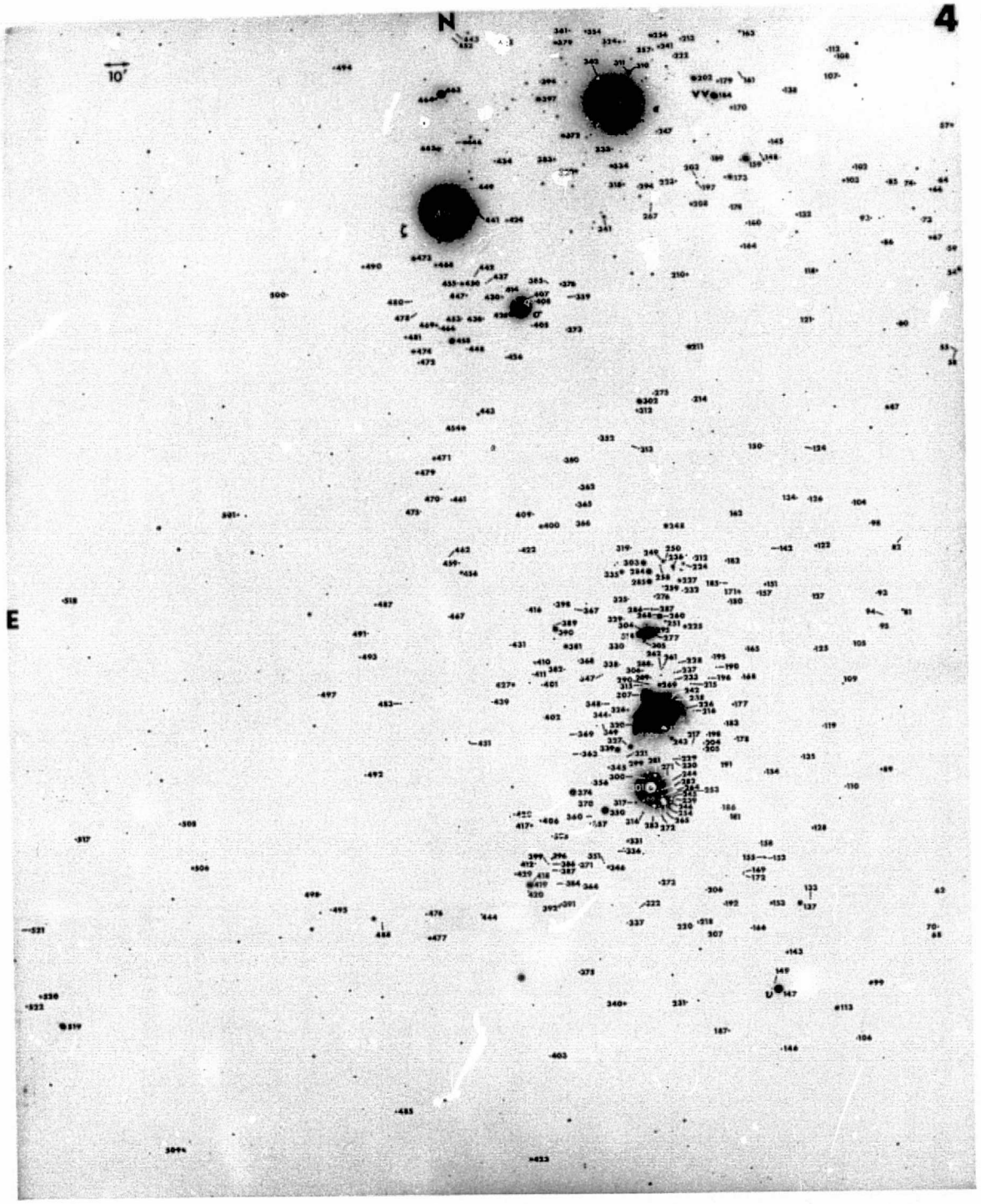
FIG. 10.– Same as Figure 7 for subdivision b3

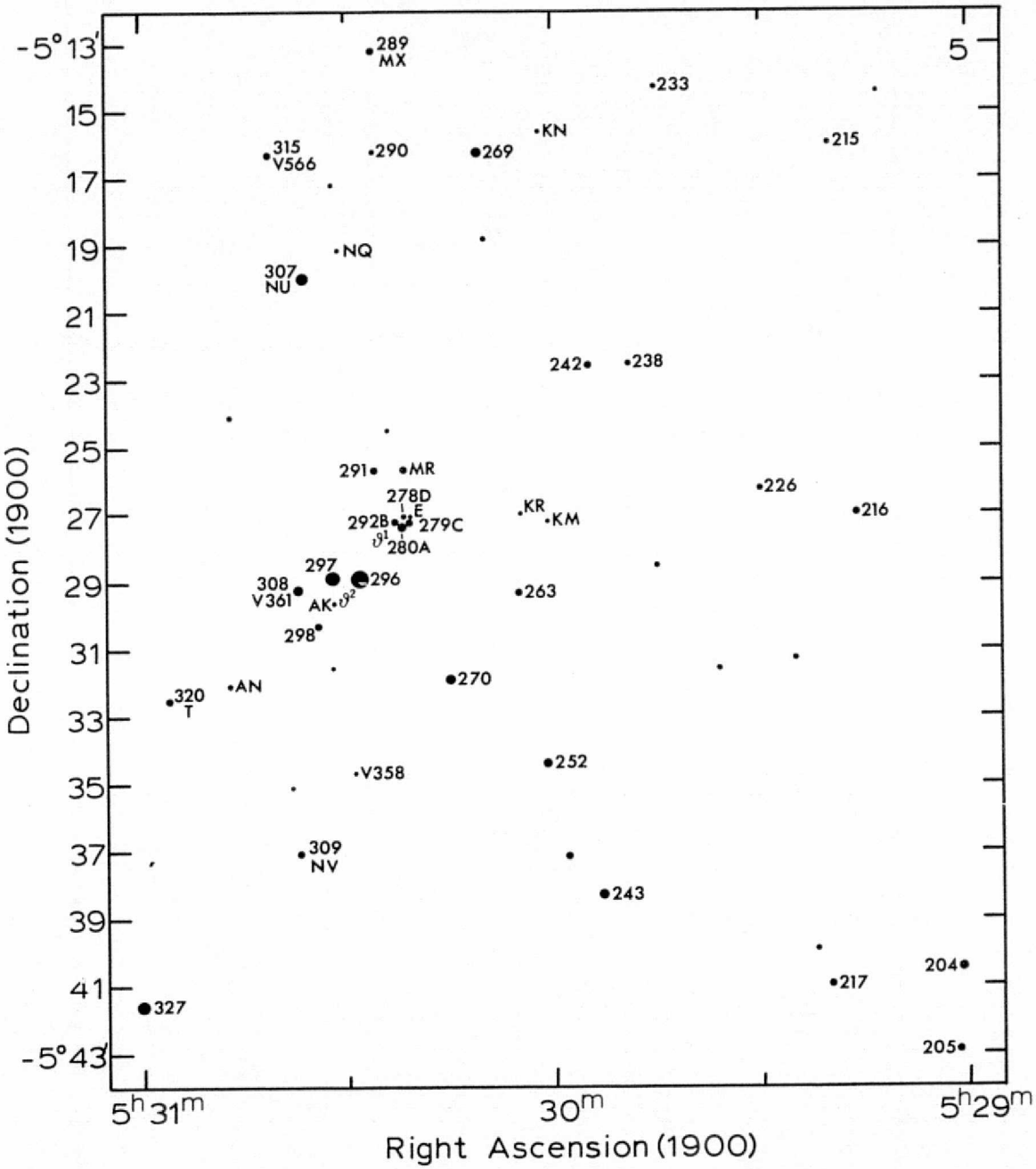
FIG. 11.– Same as Figure 7 for subdivision c

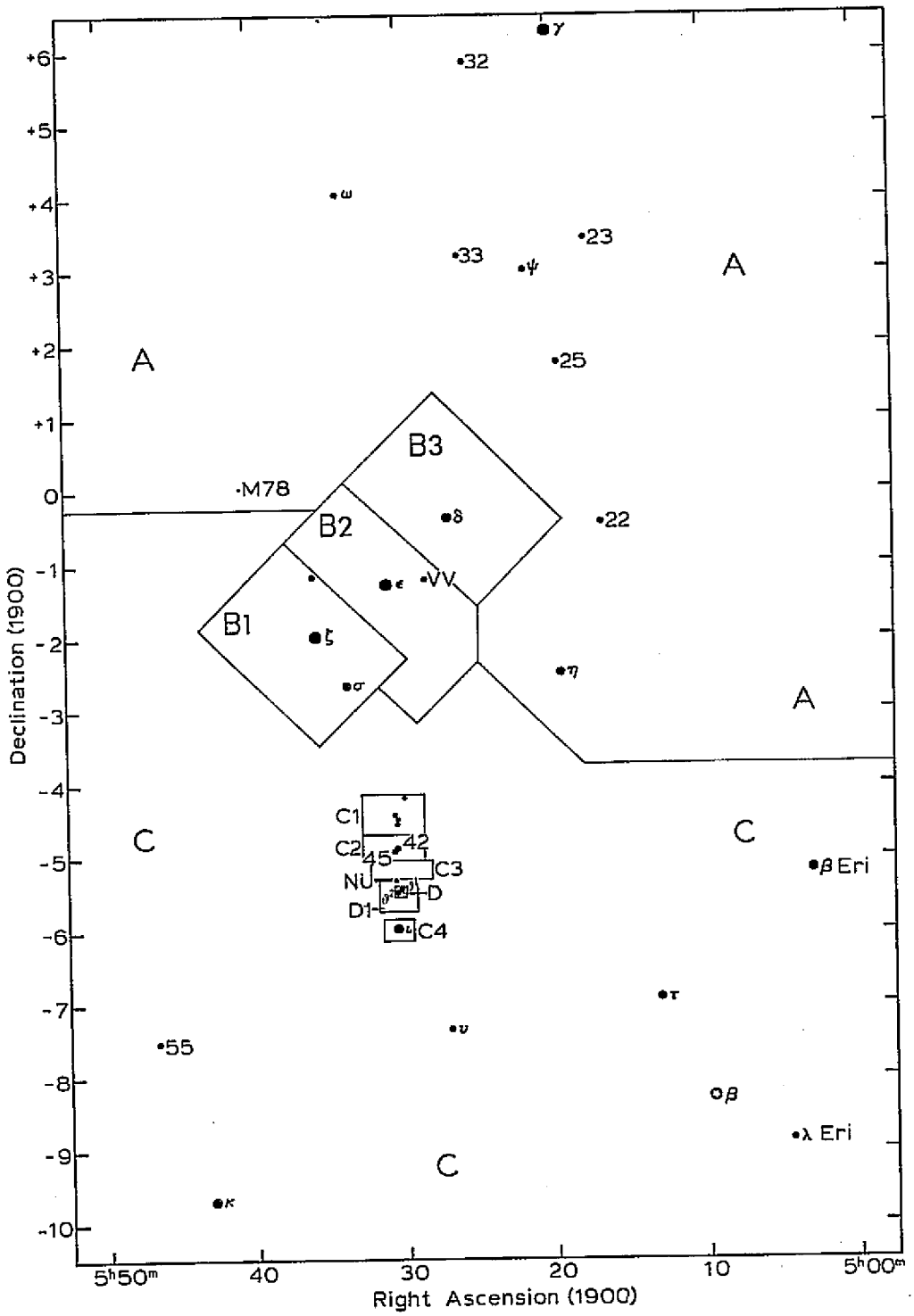
FIG. 12.– Same as Figure 7 for subdivisions c1-c4 and d1

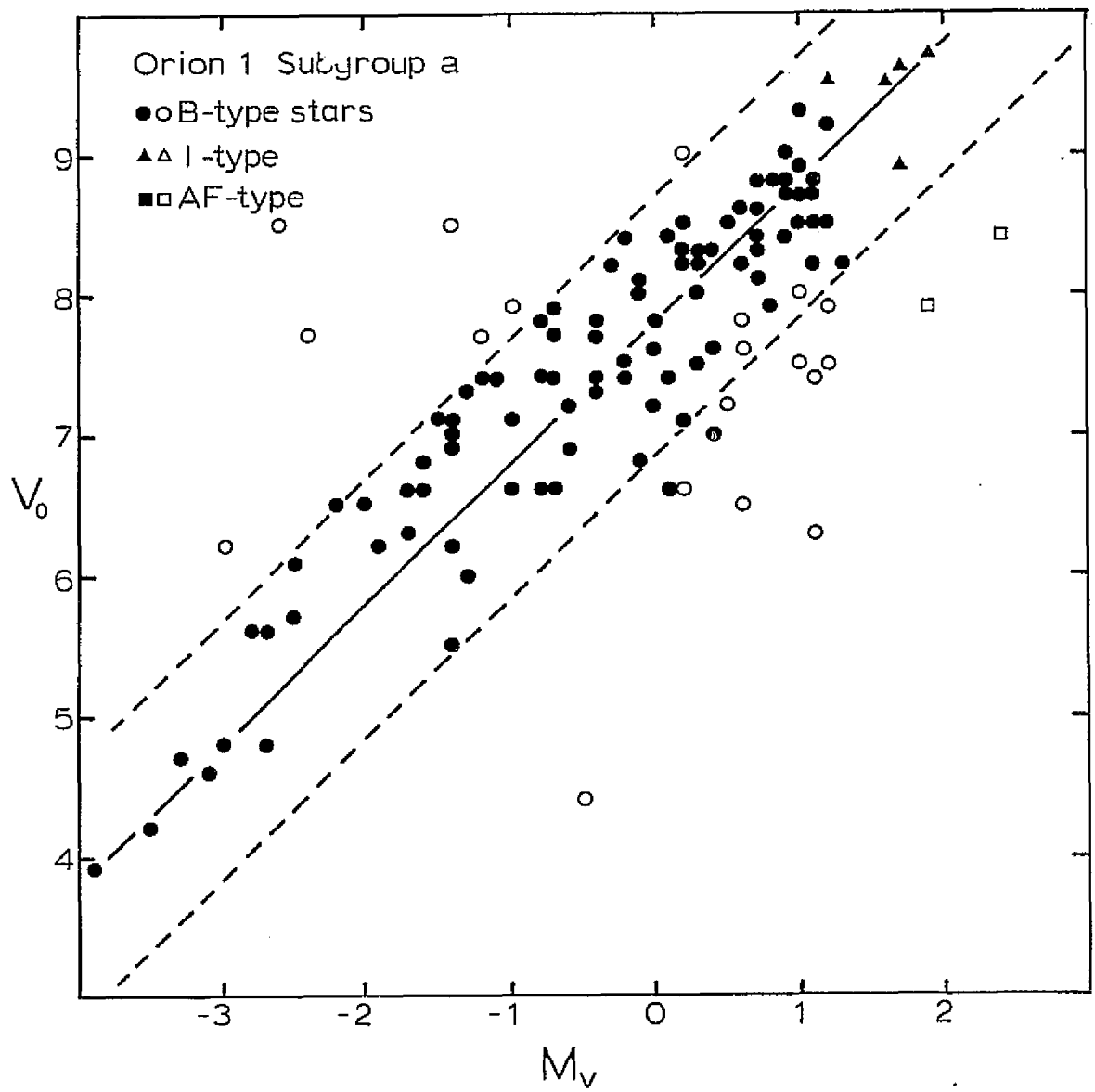

N
E
2
10'

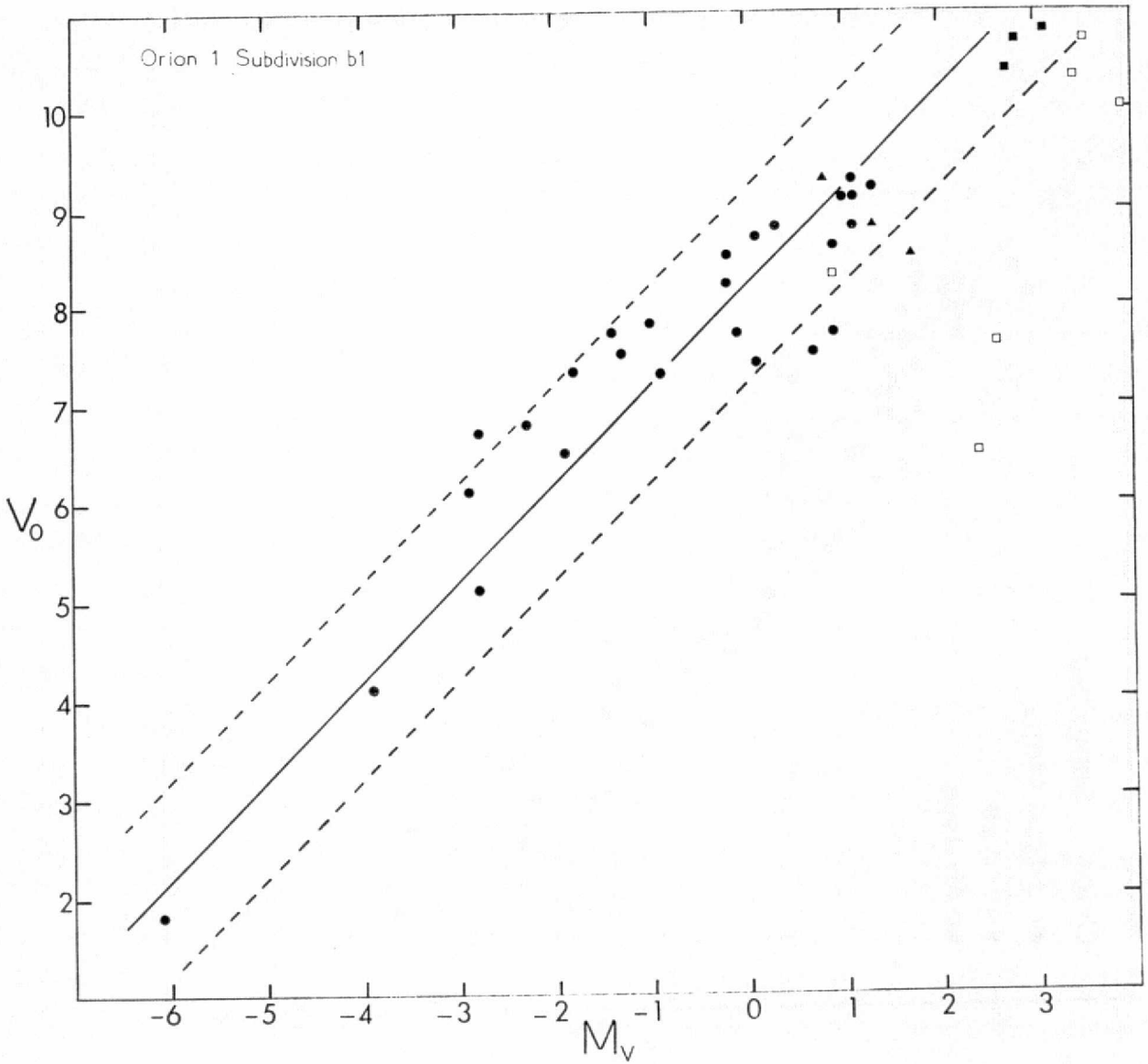


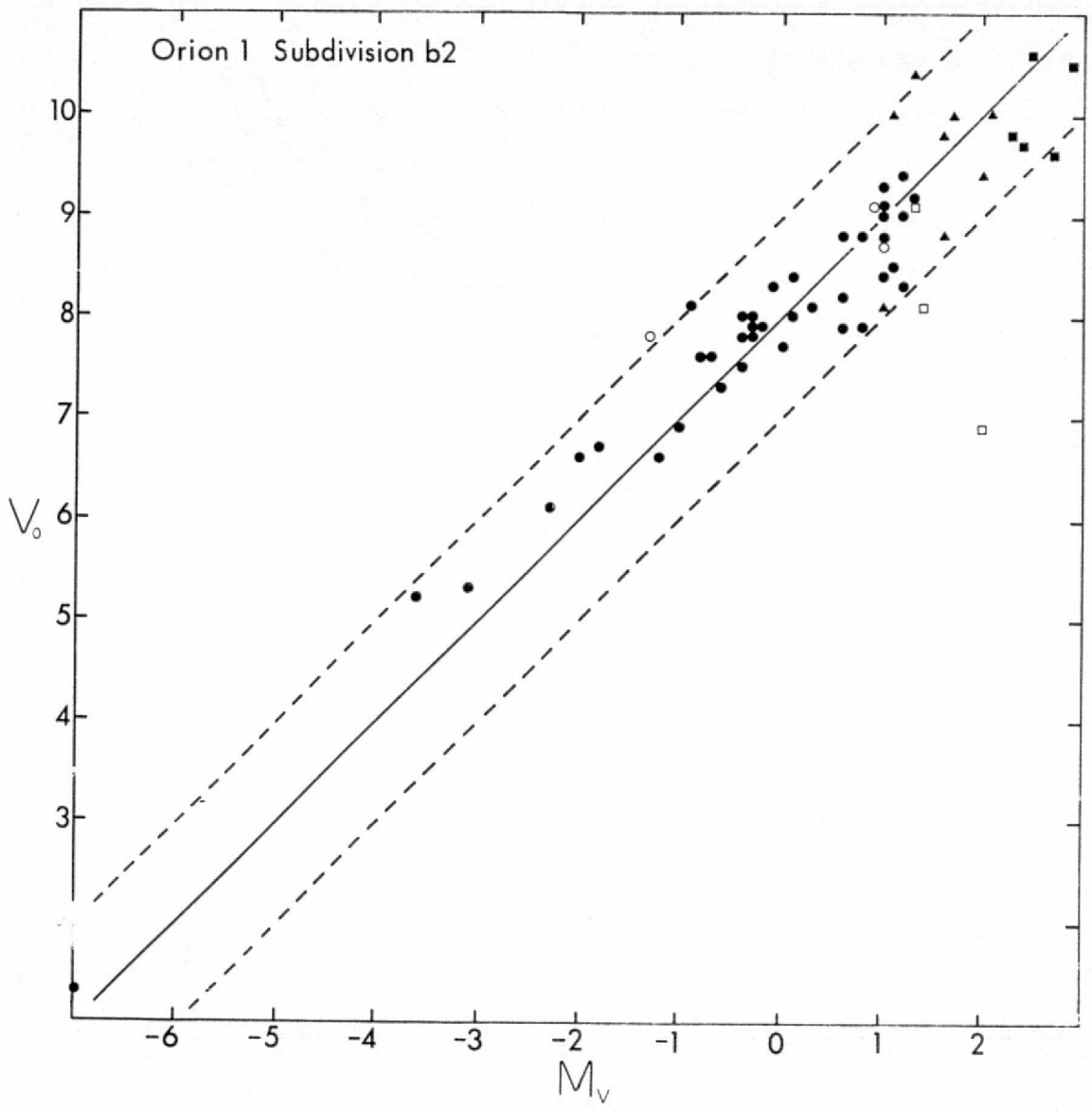

4
N
E
10'

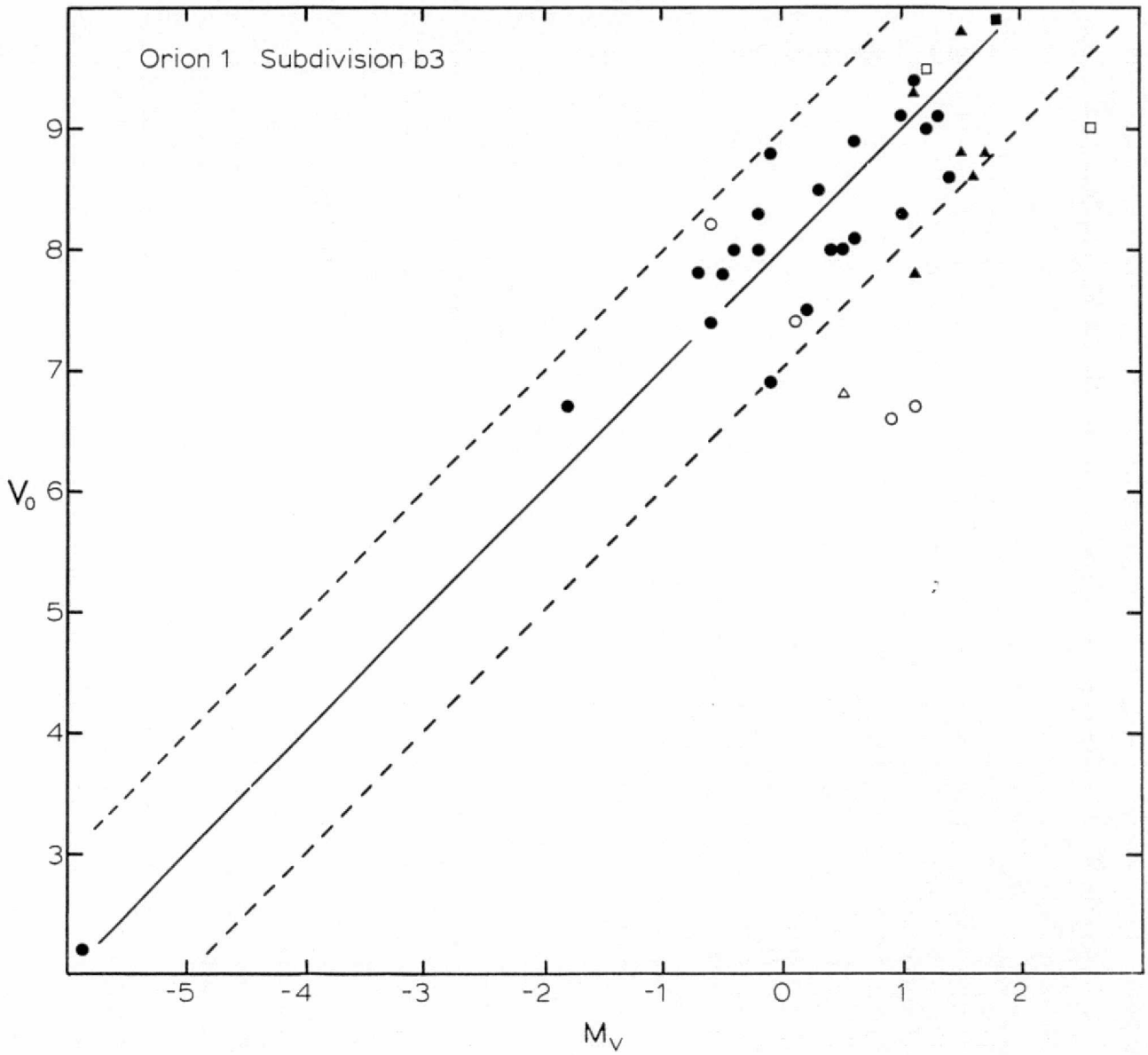

-5° 13'
15
17
19
21
23
25
27
29
31
33
35
37
39
41
-5° 43'
5
5h 31m
30m
5h 29m
Declination (1900)
Right Ascension (1900)
289
MX
233
KN
315
V566
290
269
215
NQ
307
NU
242
238
291
MR
278D
E
226
KR
KM
292B
279C
216
280A
297
296
308
V361
AK
263
298
270
AN
320
T
V358
252
309
NV
243
204
217
327
205

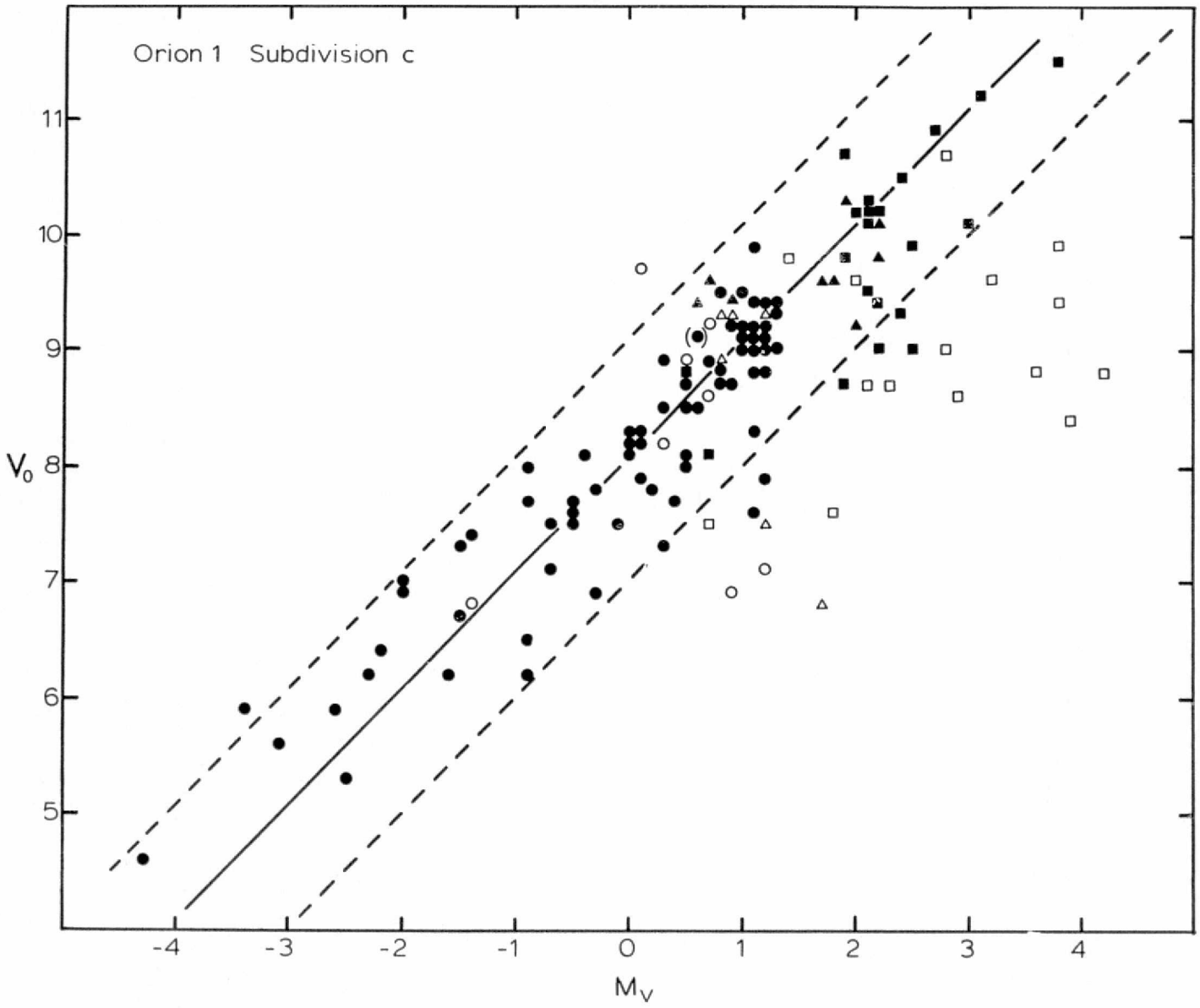

γ
32
ω
23
33
ψ
A
A
25
B3
M78
B2
δ
22
ε
VV
B1
ζ
η
σ
A
C1
C2
45
42
C3
NU
D
D1
C4
C
C
β Eri
τ
υ
55
β
λ Eri
C
κ
+6
+5
+4
+3
+2
+1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
5h50m
40
30
20
10
5h00m
Declination (1900)
Right Ascension (1900)

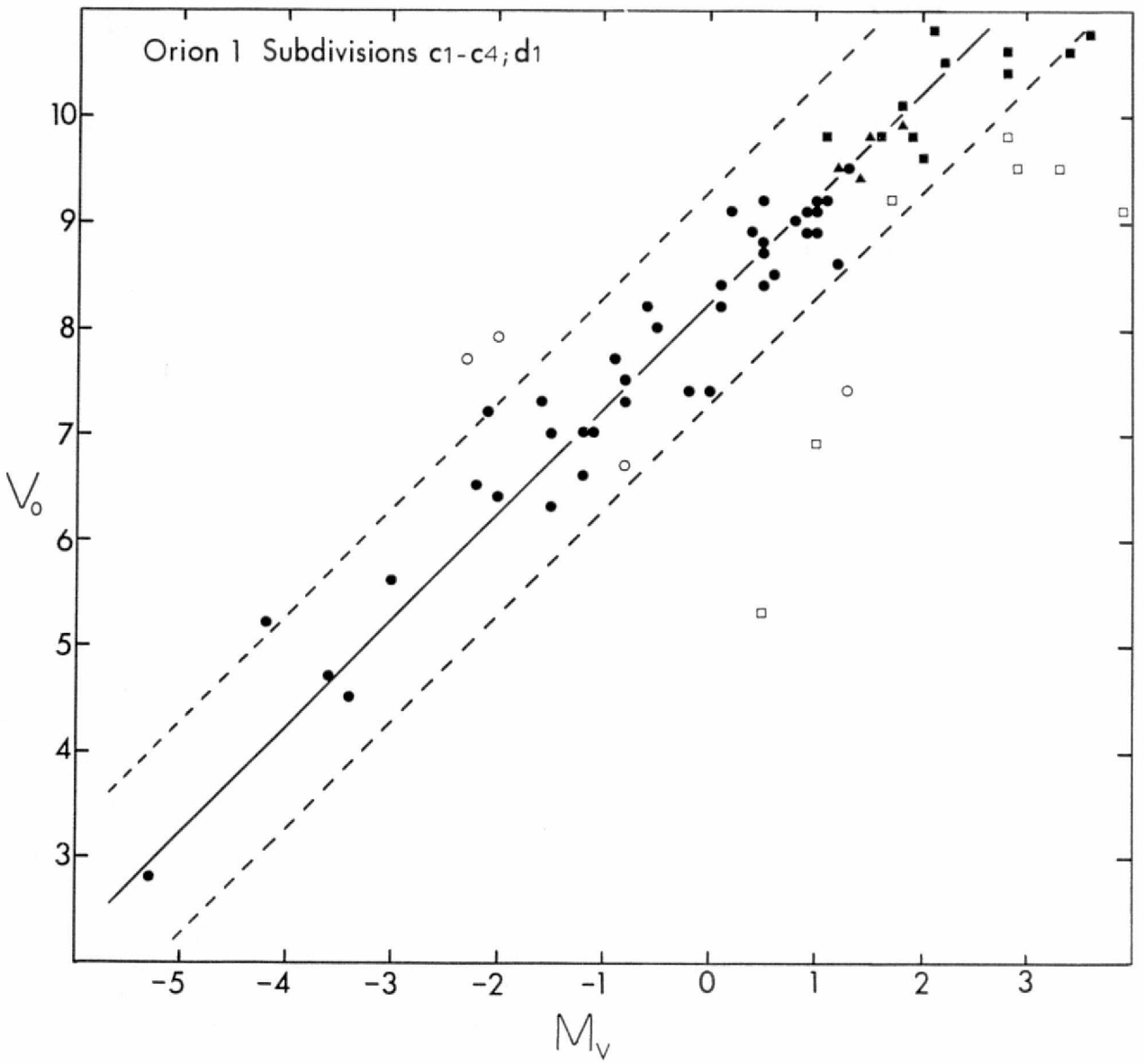

Orion 1 Subgroup a
●○ B-type stars
▲△ I -type
■□ AF-type
9
8
7
6
5
4
V_0
-3
-2
-1
0
1
2
M_V


Orion 1 Subdivision b1
10
9
8
7
6
5
4
3
2
V_0
-6
-5
-4
-3
-2
-1
0
1
2
3
M_V


Orion 1 Subdivision b2
10
9
8
7
6
5
4
3
V_0
-6
-5
-4
-3
-2
-1
0
1
2
M_V


Orion 1 Subdivision b3
9
8
7
6
5
4
3
V_0
-5
-4
-3
-2
-1
0
1
2
M_V


Orion 1 Subdivision c
11
10
9
8
7
6
5
V_0
-4
-3
-2
-1
0
1
2
3
4
M_V


Orion 1 Subdivisions c1-c4; d1
10
9
8
7
6
5
4
3
V_0
−5
−4
−3
−2
−1
0
1
2
3
M_V