

SPACE DISTRIBUTION AND KINEMATICS OF INTERMEDIATE POPULATION II STARS. PART I PHOTOMETRY AND SPECTROSCOPY IN SELECTED McCORMICK PROPER MOTION FIELDS

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uvby and H β photometry is reported for over 1000 stars brighter than about 13.5 mag. and located generally in the Galactic polar regions. Spectral types have also been determined for many of the stars.

These data constitute the initial phase of an extensive study of the space distribution and kinematics of the Intermediate Population II stars.

Key words: galactic structure – photoelectric photometry – spectra

1. INTRODUCTION

This report forms part I of a study of the kinematics of the Intermediate Population II stars. It brings together much of the photometric and spectral data that has been obtained to date in this project and provides a discussion of the techniques used to obtain them. Specifically, photometry has been obtained of more than 1000 stars, brighter than about 13.5 mag., in 57 fields selected from the McCormick Proper Motion Fields (van de Kamp and Vyssotsky 1937, Vyssotsky and Williams 1948). Most (51) of the fields lie within 30° of the Galactic poles. *uvby* and H β photometry have been completed for the proper motion stars in the fields and many of the stars have been classified on the MK system. A preliminary report on this programme was given by Blaauw (1968).

The McCormick Fields were originally selected by Vyssotsky, van de Kamp and Williams from the extensive plate material collected at the McCormick Observatory as part of its continuing parallax programme. The initial photographic plates were taken between 1914 and 1920, and proper motions were determined from this material in the 1930's and 1940's. New proper motions based on recent second epoch plates are now available for the stars in many of these fields (including all of the fields discussed in this paper) to an accuracy of 0.002 arc sec. per year or better (Blaauw, Garmany and Ianna 1976).

For the initial phase of the project, fields were selected near the Galactic poles to allow exploration of the variation of population characteristics with distance from the plane and to insure that, in practice, the number of stars per field were not excessive (about 20 stars per field at high latitudes as compared with 100 or more stars at lower latitudes). All but one of the McCormick Fields below latitude -60° have been

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included in this study (25 fields) but only those fields above latitude $+60^\circ$ containing stars fainter than magnitude 12.5 have been included (26 fields). Photometry has also been obtained in 6 fields at lower latitudes (the so-called Pilot Programme fields). Some additional fields near the NGP have been observed and will be reported elsewhere (Garmany and Ianna 1976). Figure 1 shows the distribution of the fields discussed in the present paper.

The use of *uvby* and $H\beta$ photometry (Strömgren 1966) makes possible the clear separation of the stars into groups of differing metal content based mainly on the m_1 index. This, combined with the unambiguous reddening determinations (Crawford 1975), provides a direct method of population classification which is essential to the further analysis of the material.

2. THE PHOTOMETRY

The observations have been made during several observing runs over an eight year period at both the Kitt Peak National Observatory at Tucson, and the European Southern Observatory at La Silla in Chile. With the exception of the $H\beta$ observations in 1971 and 1972, all the data were taken in the DC-mode, making use of the standard photometers and filters available at the two observatories. Table 1 gives a breakdown of the observing sessions based on the observer and the equipment used. In all cases the data were transformed to the standard *uvby*, $H\beta$ system as defined at Kitt Peak and later published by Crawford and Mander (1966) and Crawford and Barnes (1970). The rms residuals for the standards were 0.019 in V , 0.012 in $(b-y)$, 0.017 in m_1 , 0.023 in c_1 and 0.010 in $H\beta$ averaged over the main observing sessions. Table 2 gives a breakdown of the residuals by observatory and equipment for these sessions. These residuals include both the error of the transformation as well as the observational error (estimated to be about 0.008 in V , 0.006 in $(b-y)$, 0.014 in m_1 , 0.017 in c_1 and 0.008 in $H\beta$ for a star of mag. ≈ 5).

In general, the data were reduced using the computer programmes available at KPNO and ESO, respectively. The transformation coefficients were independently determined for each filter combination during each observing run. These coefficients were then used to reduce all the data from that run. Table 3 gives the values obtained for the transformations. This table also gives the mean values of the extinction coefficients which were determined. The extinction was measured frequently during each run, but the variation was so minor that the mean values of each run were used. Note that the extinction coefficients are reasonably constant from year to year and even from observatory to observatory.

Because no automatic data acquisition was available at the time, all the observations from 1969, 1970 and 1971b and c were reduced by hand. A careful intercomparison of the data from the various sessions and observers revealed occasional systematic errors. Frequently these were small enough to be neglected (of the order of the average rms residuals), but occasionally larger systematic effects were found. For instance, the c_1 measures determined in 1970b were consistently discordant and were rejected. Apparently the H and I coefficients used were incorrect (see table 3). In the case of the $H\beta$ observations, the inherent precision of the data enhanced the effects of the systematic differences. The 1971a observations produced β 's 0.025 mag. smaller, in general, than the 1972 and the 1975 (50 cm) results. The 1971 (1 m) observations produced β 's 0.030 mag. smaller. These differences do not appear to be magnitude dependent, and the standard stars reveal no systematic effect. It was assumed the cause of the deviations was connected with the fact that the standards were considerably brighter than the programme stars, this effect being accentuated in the case of a larger telescope. A systematic correction of the amount indicated above was therefore applied. In one case, 1971c, it was also necessary to apply a magnitude dependent correction to the *uvby* data due to an apparent miscalibration of the amplifier, and these data were then given only half weight in the final averages.

The visual magnitudes of the standard stars were taken from the Bright Star Catalog (Hoffleit 1964) if photoelectrically determined, or from the Navy Catalog of Photoelectric Photometry (Blanco *et al.* 1968). Thus it is clear that some of the residual error in the magnitudes is caused by this less than satisfactory

method of establishing the standard magnitudes for these stars. Unfortunately no general determination has yet been made of the magnitudes of the *uvby* standard stars.

In the initial SGP work, (1970b, 1971b), no visual magnitudes were determined from the data. When this fact gave rise to the lack of a magnitude for the star in the final listing, an estimated magnitude was substituted, taken from low quality observations made in 1972. These data were not used in the final averages and are only placed in the table where needed to indicate the magnitude.

Figure 2 shows the relation of the mean error per observation to the magnitude. The increase in the error towards fainter magnitudes is expected since each star was observed for a limited time in order to obtain as large a body of data as possible. In most cases the leveling off of the error around magnitude 11.5 is the result of the data for the fainter stars being taken on larger telescopes. The 1970a observations were, on the other hand, all made on a single telescope and the large errors for the fainter stars are the result. The fields observed in 1970a are marked in table 4 with a colon (:), and the stars in those fields fainter than 11.5 mag. generally have large mean errors. All of the additional scatter in the m_1 vs $(b-y)$ plot for the NGP fields (figure 4) is due to these stars.

3. SPECTROSCOPY

The spectral classes given in the McCormick Catalogues originate from several sources. Most classifications were taken over from the HD and HDE Catalogues and others were obtained from plates taken with the Metcalf 10" telescope (mean dispersion 400 Å/mm in the blue) and the 24" Clark reflector (mean dispersion 520 Å/mm in the blue). In order to provide a homogeneous basis for the present study, the NGP fields were reclassified in the MK System and the SGP fields were thoroughly checked by means of new plates.

For the spectral classification of programme stars in the 26 NGP fields, objective prism plates (Kodak IIa-O) were obtained in 1971 and 1972 with the 70 cm Menisc telescope in Abastumani. The spectra have a dispersion of 166 Å/mm at H β , the widening is 0.2 mm and the exposure time 30 min. For most of the plates, the limiting magnitude for two-dimensional classification is 12 mag. The spectral classification was carried out by one of us (R.A.B.) according to the methods discussed by Kharadze and Bartaya (1960). Most of the programme stars could be classified except for a few with severe overlapping. For the stars fainter than 12 mag. one-dimensional classification has been performed. Attempts to reach the faintest stars with unwidened spectra did not result in any significant improvement in the visual classification. Work on improving the classification by means of microphotometer recordings is in progress.

Plates of 25 SGP fields were obtained with the 40 cm GPO Astrograph at La Silla, Chile from 1970 to 1974. For details about this instrument, cf. Duflot and Fehrenbach (1962). Two or more plates were obtained for most of the fields, with a widening of 0.2–0.3 mm. A 2 h exposure (dispersion 110 Å/mm) reaches about 12 mag. The spectra were classified one-dimensionally by one of us (R.M.W.), according to the Marseilles scheme. The present classification was compared with the McCormick classification. No significant systematic discrepancies were noted, but several stars were wrongly classified in the McCormick Catalogue. For the present programme, the GPO spectral classes have been adopted.

The accuracy of the Abastumani MK Classification is estimated at ± 1 subclass and ± 1 luminosity class. The accuracy of the GPO classification is somewhat lower due to the strong wavelength dependence of the focal plane of the GPO; it is estimated at ± 2 subclasses.

Figure 3 is a plot of the Abastumani and GPO spectral classes against $(b-y)$. The diagram shows that there is a very good agreement between mean spectral types from Abastumani (NGP) and La Silla (SGP). The agreement with the mean Hyades relation for A5–G0 stars (Crawford and Perry 1966) is also good.

4. THE DATA

Table 4 is a listing of the fields observed, the identification of the central star, its magnitude, and its position in both the equatorial and galactic coordinate systems. The positions of the proper motion stars in the fields can

be determined relative to the central star by use of the X and Y positions listed in McCormick Publications 7 and 10. Because of the scale of the original plates, the programme stars are all within about 30 arc min. of the central star.

Table 5 contains the final values for the stars observed. Column 1 gives the McCormick Field number and column 2 gives the individual star number within each field. The spectral type and luminosity class are given in column 3 where available. Columns 4 through 11 give the photometric data along with the number of observations used to determine the magnitudes, colours, and β index, respectively. The last column contains the BD number of the star if available and references to the notes at the end of the table. Note that a colon (:) or double colon (::) beside a photometric measure indicates that the mean error per observation for that measure exceeds, respectively, 2 or 4 times the expected mean error for a 11 mag. star from figure 2. These expected mean errors for a single observation are 0.020 in V , 0.015 in $(b-y)$, 0.025 in m_1 , 0.045 in c_1 , and 0.025 in β .

Figure 4 is a plot of m_1 , c_1 and β as a function of $(b-y)$ for all the stars in table 5. The points falling well outside the main distribution have been individually checked for computational errors and appear to be correct. Note that to insure that a β index observation was obtained for all stars earlier than G0, all the stars in several of the SGP fields were observed in $H\beta$. This accounts for the large number of β measures for stars later than G0 in the southern fields.

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REFERENCES

- Blaauw, A.: 1968, *European Southern Obs. Bull.*, **4**, 17.
 Blaauw, A., Garmany, C.D. and Ianna, P.A.: 1976, (in preparation).
 Blanco, V.M., Demers, S., Douglass, G.C. and FitzGerald, M.P.: 1968, *Publ. U.S. Naval Obs.* **21**, 1.
 Bond, H.E.: 1970, *Astrophys. J. Suppl.* **184**, 117.
 Crawford, D.L. and Perry, C.L.: 1966, *Astron. J.* **71**, 206.
 Crawford, D.L. and Mander, J.: 1966, *Astron. J.* **71**, 114.
 Crawford, D.L. and Barnes, J.M.: 1970, *Astron. J.* **75**, 978.
 Crawford, D.L.: 1975, *Astron. J.* **80**, 955.
 Dufлот, M. and Fehrenbach, C.: 1965, *Comm. European Southern Obs.* **5**, 1.
 Garmany, C.D. and Ianna, P.A.: 1976, (in preparation).
 Hoffleit, D.: 1964, *Catalogue of Bright Stars*, Yale University Obs. New Haven.
 Kamp, P. van de and Vyssotsky, A.N.: 1937, *Publ. Leander McCormick Obs.* **7**, 1.
 Kharadze, E.K. and Bartaya, R.A.: 1960, *Bull. Abastumani Obs.* **25**, 139.
 Strömgren, B.: 1966, *Ann. Rev. Astron. Astrophys.* **4**, 433.
 Vyssotsky, A.N. and Williams, E.T.R.: 1948, *Publ. Leander McCormick Obs.* **10**, 1.

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Table 2 Average rms Residuals of Standard Stars
(Major observing sessions only)

Date	Equipment	rms V	rms (b-y)	rms m _I	rms c _I	rms β
1968	KPNO, 91cm	0.021	0.012	0.018	0.033	--
1968	KPNO, 213cm	0.021	0.010	0.013	0.022	--
1970a	KPNO, 127cm	0.015	0.017	0.024	0.035	--
1974	ESO, 50cm	0.019	0.009	0.014	0.014	0.009
1974	ESO, 100cm	0.019	0.010	0.015	0.012	0.012
1975	ESO, 50cm	--	--	--	--	0.010
1975	ESO, 100cm	--	--	--	--	0.009

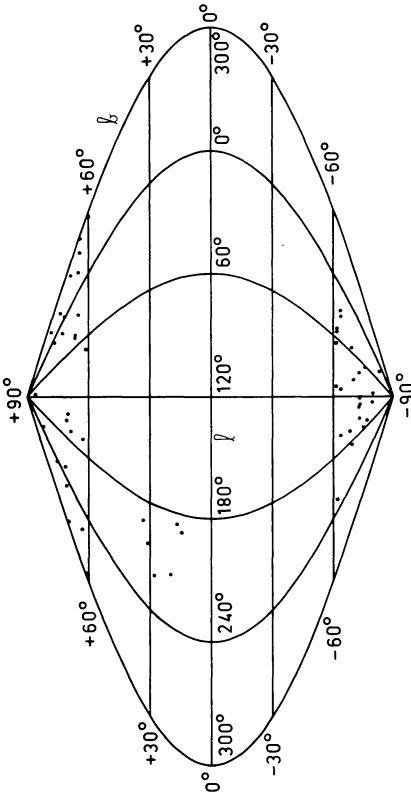


Figure 1 A plot showing the position in Galactic coordinates of the 57 McCormick Fields discussed in this paper.

Table 1 Observing Sessions and Equipment

Date	Program	Telescope cm	Observatory	Filters	Observers
1968	NGP, Pilot	213,91	KPNO	uvby	Blaauw, Tolbert
1969	NGP	127	KPNO	Hβ	Tolbert
1970a	NGP	127	KPNO	uvby	Tolbert
1970b	SGP	100	ESO	uvby	West
1971a	NGP	127	KPNO	Hβ	Tolbert
1971b	SGP	100	ESO	uvby	West
1971c	SGP	100	ESO	uvby	Sterken
1972	NGP	91	KPNO	Hβ	Ianna
1973a	SGP	100	ESO	Hβ	Havlen
1973b	SGP	100	ESO	Hβ	de Groot
1974	SGP	100,50	ESO	uvby, Hβ	Tolbert, West
1975	NGP	100,50	ESO	Hβ	Blaauw

Table 3 Transformation and Extinction Coefficients

Date	Filters	B (m)	D	F	J	H	I	Ky	Kb _y	Km _I	Kc _I
1968	Set 6	0.038	1.100	0.978	--.163	1.050	.207	.155	.068	.053	.187
1968	Set 1	0	1.000	1.000	0	1.000	0	.155	.068	.053	.187
1969	9, 10	(1.320)									
1970a	Set 6	0.041	1.104	0.973	--.161	1.054	.218	.155	.068	.056	.143
1970b	uvby (1m)	-	0.906	0.922	.169	1.477	.726	-	.068	.049	.090
1971b	uvby (1m)	-	0.969	0.896	.125	0.988	.160	-	.058	.079	.184
1971c	uvby (1m)	0	1.066		0		0	.140	.055	.059	.174
1973	Hβ (1m)	(1.083)									
1974	uvby(.5m)	0.020	1.064	0.995	--.116	0.972	--.077	.150	.042	.074	.178
1974	Hβ (.5m)	(1.282)									
1974	uvby (1m)	0.051	1.040	0.984	--.108	0.944	--.040	.150	.042	.074	.178
1974	Hβ (1m)	(1.143)									
1975	Hβ (.5m)	(1.302)									
1975	Hβ (1m)	(1.043)									

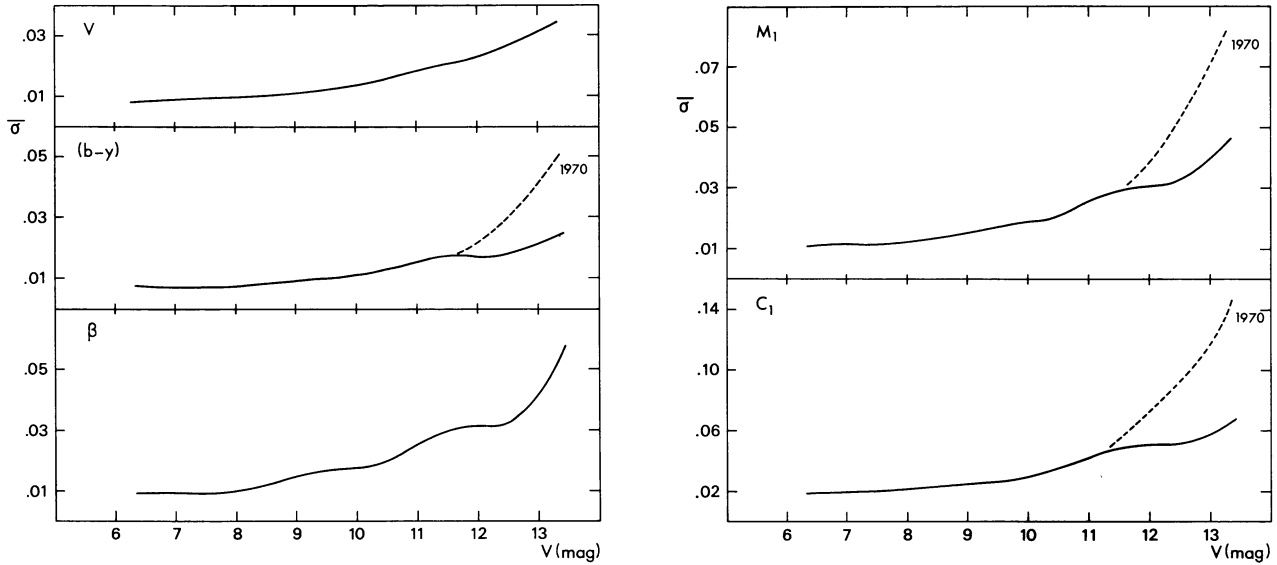


Figure 2 Rms error per observation as a function of magnitude. In most observing sessions the stars fainter than 11.5 mag. were observed on a larger telescope. The dashed line indicates the errors for the 1970a observing session when the data were taken on a single telescope.

Table 4

Field #	Central Star	α (1975)	δ (1975)	l	b	Program	Field #	Central Star	α (1975)	δ (1975)	l	b	Program
3	9 Cet	0 ^h 21 ^m .4	-12 ^o 21'	81 ^o	-73 ^o	SGP	328	89 Aqr	23 ^h 08 ^m .6	-22 ^o 35'	32 ^o	-64 ^o	SGP
4	82 Cet	0 36.3	-24 54	27	-83	SGP	332	HD 219617	23 15.7	-13 59	51	-62	SGP
5	HD 3628	0 37.8	+ 2 59	110	-61	SGP	346	ι Cet	0 18.2	- 8 58	99	-70	SGP
9	HD 4256	0 43.7	+ 1 40	111	-63	SGP	350	β Cet	0 42.4	-18 07	110	-80	SGP
16	θ Cet	1 22.8	- 8 19	135	-73	SGP	352	19 Cet	0 48.9	-10 47	123	-73	SGP
23	τ Cet	1 42.9	-16 04	170	-77	SGP	356	HD 5659	0 56.8	-15 50	131	-79	SGP
26	χ Cet	1 48.5	-10 48	159	-73	SGP	359	η Cet	1 07.3	-10 19	137	-73	SGP
31	$\circ$ Cet	2 18.1	- 3 06	162	-63	SGP	369	HD 10519	1 41.0	-18 01	177	-75	SGP
32	HD 15144	2 24.8	-15 27	188	-69	SGP	371	ζ Cet	1 50.2	-10 28	166	-68	SGP
43	α For	3 11.0	-29 05	229	-62	SGP	542	ψ UMa	11 08.3	+44 37	166	+63	NGP
101	ι Gem	7 24.2	+27 52	189	+15	Pilot	551	ν Vir	11 44.6	+ 6 39	262	+64	NGP
102	ρ Gem	7 27.5	+31 51	185	+17	Pilot	553:	β Leo	11 47.8	+14 42	251	+71	NGP
112	β Cnc	8 15.2	+ 9 17	212	+20	Pilot	554	67 UMa	12 00.9	+43 11	153	+71	NGP
119	δ Cnc	8 43.3	+18 14	204	+31	Pilot	556:	HD 104785	12 02.8	+18 57	248	+76	NGP
120	ι Cnc	8 45.2	+28 51	192	+33	Pilot	562:	HD 107326	12 19.0	+26 09	221	+83	NGP
123	ζ Hya	8 54.1	+ 6 03	219	+28	Pilot	564:	γ Vir	12 40.4	- 1 19	298	+61	NGP
150	93 Leo	11 46.7	+20 21	224	+72	NGP	566:	32 Vir	12 44.4	+ 7 48	298	+70	NGP
152	HD 103095	11 51.5	+37 54	167	+69	NGP	569:	HD 111515	12 48.4	+ 1 20	301	+64	NGP
159:	β CVn	12 32.6	+41 29	141	+70	NGP	579:	HD 119850	13 44.3	+15 04	353	+72	NGP
166:	θ Vir	13 08.7	- 5 24	304	+60	NGP	580:	HD 120066	13 45.7	+ 6 29	338	+65	NGP
168	β Com	13 10.7	+28 01	107	+86	NGP	590	ρ Boo	14 30.8	+30 29	47	+67	NGP
173:	70 Vir	13 27.2	+13 55	328	+78	NGP	592:	σ Boo	14 33.6	+29 51	45	+67	NGP
174	$\circ$ Vir	13 32.9	+ 3 49	319	+68	NGP	763	δ Aqr	22 53.4	-15 57	50	-61	SGP
175	ζ Vir	13 33.4	- 0 28	318	+64	NGP	769	91 Aqr	23 14.6	- 9 13	67	-61	SGP
176	HD 118889	13 38.4	+10 53	333	+74	NGP	770	HD 219834	23 17.7	-13 36	60	-65	SGP
177:	η Boo	13 54.5	+18 32	6	+77	NGP	773	HD 220515	23 23.1	-17 27	54	-68	SGP
179:	α Boo	14 14.5	+19 19	17	+73	NGP	780	HD 224619	23 58.0	-20 10	61	-76	SGP
184	ξ Boo	14 50.2	+19 12	25	+65	NGP							
189	β Boo	15 01.0	+40 29	72	+61	NGP							
327	86 Aqr	23 05.3	-23 53	29	-63	SGP							

: NGP fields observed in 1970. uvby values are uncertain for stars fainter than 11.5 mag.

Table 5

Field Star Spectral											Field Star Spectral											
#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	n	#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
3	01	K0	8.49	3	0.720	0.494	0.426	3	2.696	3	9	01	K0	10.09	3	0.674	0.477	0.459	3	2.604	3	+ 0 113
3	02	F0	10.93	1	0.246	0.127	0.528	3	2.696	3	9	02	K0	10.60	4	0.610	0.442	0.451	4	2.593	4	+ 1 123
3	03	G0	11.10	4	0.294	0.167	0.418	4	2.668	4	9	03	F2	8.00	4	0.225	0.166	0.708	4	2.721	4	+ 1 124
3	04	F5	12.01	3	0.406	0.220	0.374	3	2.632	3	9	04	F0	11.57	3	0.251	0.127	0.553	3	2.677	3	
3	05	F8	9.37	1	0.343	0.166	0.374	3	2.654	3	9	05	F2	10.51	3	0.318	0.109	0.418	3	2.628	3	
3	06	G8	10.81	3	0.460	0.304	0.298	3			9	06	G0	12.18	3	0.371	0.162	0.322	3	2.666	3	
3	07	G5	11.10	4	0.502	0.332	0.328	4			9	07	F8	11.63	3	0.351	0.160	0.409	3	2.619	3	
3	08	G2	11.48	4	0.363	0.145	0.334	4	2.622	4	9	08	G5	11.87	3	0.464	0.286	0.409	3	2.636	3	
3	09	K:	12.29	3	1.013	0.599	0.185	3			9	09	G2	11.44	3	0.399	0.114	0.414	3	2.616	3	
3	10	G0	12.03	3	0.378	0.224	0.281	3	2.631	3	9	10	G5	11.97	2	0.444	0.223	0.220	2	2.572	2	
3	11	M2	9.94	3	1.104	0.416	0.676	3			9	11	K2	9.07	3	0.686	0.469	0.461	3	2.605	3	+ 0 115
3	12	G2	11.68	3	0.441	0.156	0.398	3	2.618	3	9	12	K0	10.78	4	0.371	0.160	0.382	4	2.547	4	
3	13	F5	9.50	1	0.311	0.161	0.433	3	2.659	3	9	13	G5	10.13	4	0.413	0.202	0.342	4	2.608	2	+ 1 134
											9	14	K0	11.96	3	0.484	0.227	0.313	3	2.513	2	
											9	15	K0	9.82	3	0.575	0.341	0.348	3	2.571	4	+ 1 135
4	01	G5	11.37	3	0.612	0.345	0.365	3	2.559	3	16	01	K2	11.57	2	0.680	0.446	0.714	2			
4	02	G2	10.85	4	0.396	0.173	0.392	4	2.605	4	16	02	K0	12.07	2	0.464	0.251	0.375	2			
4	03	K0	7.99	3	0.635	0.426	0.425	3	2.569	1	16	03	G2	11.45	3	0.413	0.175	0.317	3	2.566	3	- 8 239
4	04	G0	12.21	3	0.444	0.177	0.407	3			16	04	G8	10.02	3	0.560	0.320	0.365	3			- 8 241
4	05	M5	8.16	3	1.218	0.147	1.018	3			16	05	K0	10.68	3	0.670	0.468	0.399	3			
4	06	G5	8.89	3	0.564	0.377	0.391	3	2.586	3	16	06	G5	9.73	3	0.607	0.377	0.448	3	2.573	3	- 9 266
4	07	F8	12.11	2	0.364	0.098	0.447	2	2.580	2	16	07	F8	12.47	2	0.544	0.362	0.393	2	2.590	2	
4	08	G0	10.90	4	0.403	0.173	0.303	4	2.547	3	16	08	G5	11.80	2	0.544	0.427	0.319	2	2.513	2	
4	09	G0	12.27	3	0.733	0.499	0.287	3	2.547	3	16	09	G2	12.63	2	0.505	0.075	0.343	2	2.616	2	
4	10	G0	7.94	3	0.982	0.293	0.408	3			16	10	G2	12.18	2	0.461	0.374	0.456	2	2.473	2	
4	11	G0	8.17	3	0.385	0.210	0.332	3	2.595	3	16	11	A5	6.21	3	0.131	0.199	0.853	3	2.808	3	- 8 243
4	12	G5	11.84	3	0.469	0.242	0.300	3	2.548	3	16	12	G2	10.56	3	0.387	0.169	0.357	3	2.424	3	- 9 269
4	13	F5	10.45	2	0.317	0.152	0.459	2	2.650	3	16	13	G0	11.53	3	0.386	0.198	0.424	3	2.572	3	
4	14	G8	10.67	4	0.672	0.475	0.402	4	2.537	1	16	14	F8	11.66	3	0.356	0.086	0.393	3	2.590	3	- 8 245
4	15	A5	8.54	2	0.120	0.196	0.903	2	2.860	1	16	15	G2	11.91	3	0.438	0.254	0.401	3	2.577	3	
4	16	K0	6.40	3	0.913	0.720	0.472	3			16	16	K5	11.60	3	0.623	0.560	0.298	3			
5	01	F0	9.79	1	0.216	0.144	0.684	1	2.757	1	23	01	G2	11.38	2	0.402	0.161	0.288	3	2.628	3	-16 290
5	02	F0	11.92	2	0.236	0.130	0.615	2	2.719	2	23	02	F8	12.70	2	0.387	0.189	0.288	3	2.569	3	
5	03	K0	6.40	2	0.819	0.602	0.471	2	2.753	1	23	03	G0	11.92	2	0.374	0.193	0.265	3	2.588	3	
5	04	G0	12.04	2	0.376	0.080	0.581	2	2.600	1	23	04	G5	11.26	2	0.411	0.148	0.324	3	2.622	3	-16 291
5	05	G0	9.85	1	0.381	0.182	0.365	1			23	05	G8	12.58	2	0.445	0.259	0.328	3	2.522	1	
5	06	K5	11.30	2	0.399	0.179	0.333	2	2.584	2	23	06	G0	10.92	5	0.304	0.171	0.452	6	2.607	6	SEE NOTE 7
5	07	K5	7.66	2	0.633	0.452	0.400	2	2.549	2	23	07	G8	11.93	2	0.375	0.201	0.307	3			-16 294
5	08	F8	11.99	2	0.432	0.005	0.661	2	2.606	2	23	08	G8	11.13	2	0.383	0.255	0.391	3			
5	09	G2	10.40	2	0.350	0.100	0.425	2	2.628	2	23	09	M2	13.22	2	0.433	0.320	0.320	3	2.526	3	
5	10	G2	10.40	2	0.350	0.100	0.425	2	2.573	2	23	10	F:	13.22	2	0.433	0.320	0.320	3	2.526	3	
5	11	G2	10.40	2	0.350	0.100	0.425	2	2.573	2	23	11	G2	11.77	2	0.418	0.174	0.277	3	2.558	1	
5	12	K5	11.61	3	0.583	0.415	0.492	3	2.532	3	23	12	G5	12.86	2	0.558	0.159	0.337	3			
5	13	F5	11.69	2	0.329	0.157	0.224	2	2.608	2	23	13	K0	10.90	2	0.661	0.412	0.390	3			-16 297
5	14	G5	11.11	2	0.566	0.344	0.354	2	2.573	2	23	14	F0	11.33	2	0.297	0.125	0.442	3	2.645	5	-16 298
5	15	F8	12.29	1	0.406	0.115	0.526	1	2.634	1	23	15	G0	8.50	1	0.392	0.176	0.318	3	2.607	3	-16 301
5	16	F5	9.75	2	0.289	0.175	0.471	2	2.670	2	23	16	G:	13.17	2	0.449	0.164	0.408	3			
5	18	F8	10.63	2	0.298	0.176	0.395	2	2.455	2	23	18	G0	13.24	2	0.413	0.189	0.321	3	2.564	4	
5	19	G:	12.29	1	0.729	0.220	0.476	1	2.599	1	23	19	K0	12.90	2	0.483	0.196	0.392	3	2.542	1	
5	20	G0	12.31	1	0.904	0.153	0.311	1	2.938	1	23	20	G2	11.15	2	0.364	0.171	0.327	3	2.610	3	-16 302
5	21	K4:	12.04	1	0.381	0.125	0.481	1			23	21	F8	12.62	2	0.392	0.145	0.302	3	2.584	3	
5	22	G0	10.87	2	0.381	0.196	0.358	2	2.609	2												
5	23	F8	11.17	2	0.331	0.165	0.418	2	2.630	2	26	01	F2	11.25	3	0.311	0.126	0.368	3	2.617	3	-11 348
5	24	G5	11.58	1	0.614	0.295	0.488	1	2.594	1	26	02	K0	9.52	3	0.676	0.447	0.457	3			-11 349
5	25	G5	11.72	1	0.546	0.237	0.244	1	2.619	1	26	03	K0	9.70	3	0.643	0.443	0.393	3			-11 348
5	26	G2	11.11	2	0.386	0.213	0.414	2	2.622	2	26	04	K0	11.66	5	0.508	0.368	0.328	7	2.590	1	SEE NOTE 8
5	27	G2	12.08	1	0.401	0.114	0.205	1	2.745	1	26	05	K5	10.13	3	0.938	0.691	0.433	3			-11 356
5	28	G2	12.02	1	0.419	0.229	0.310	1	2.632	1												

Table 5 (continued)

Field Star #	Spectral Type	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
31 01	G8	12.52:	3	0.618	0.424:	0.448:	3	2.557:	3	SEE NOTE 9
31 02	G	12.68:	3	0.551:	0.258:	0.578:	3	2.557:	3	SEE NOTE 9
31 03	K2	11.62	3	0.627	0.476	0.422	3	2.602	3	
31 04	F8	12.57	3	0.421:	0.112:	0.318	3	2.602	3	
31 05	K5	11.41	4	0.605	0.453:	0.427:	4			
31 06	G2	9.48	3	0.368	0.187	0.433	3	2.627	3	- 3 347
31 07	G5	12.36:	3	0.392	0.196	0.308	3	2.572	3	
31 08	G5	12.48:	3	0.604	0.298	0.442	3	2.506:	3	- 3 348
31 09	G5	10.97	3	0.408	0.248	0.333	3			
31 10	G8	11.70	5	0.467	0.254	0.316	5			
31 11	K0	12.74:	3	0.576	0.405:	0.335:	3	2.535	2	
31 12	G5	11.13:	3	0.690	0.445	0.415	3			
31 13	K0	10.25	3	0.650	0.365	0.444	3			
31 14	M0	9.29	2	0.909	0.730	0.401	2			- 3 355
31 15	G8	11.82:	5	0.494	0.311	0.395	5			SEE NOTE 9
31 16	G5	12.76	2	0.392	0.250:	0.194:	2	2.632	2	
31 17	F5	10.64	2	0.319	0.162	0.419	2	2.675	3	- 3 356
31 18	A8	10.79:	2	0.181:	0.143	0.842	2	2.755	3	- 3 357
31 19	G2	11.19	3	0.409	0.163	0.372	3	2.638	3	
32 01	G2	11.0	0	0.391	0.154	0.329	2	2.651	1	-15 422
32 02	K2	11.5	0	0.600	0.338	0.403	2			
32 03	G0	11.2	0	0.351	0.169	0.283	2	2.601	1	
32 04	G5	10.4	0	0.476	0.288	0.307	2			-15 424
32 05	G5	10.7	0	0.561	0.330	0.301	2			-15 427
32 06	G0	12.1	0	0.511	0.300	0.420	2	2.581	1	
32 07	G2	10.5	0	0.453	0.245	0.375	2	2.610	1	-15 429
32 08	G8	10.4	0	0.463	0.242	0.225	2			-12 444
32 09	M0	10.2	0	0.865	0.755	0.265:	2			-15 432
43 01	G5	9.92	1	0.402	0.206	0.343	3			-29 1167
43 02	F8	11.5	0	0.363	0.147	0.351	2	2.589	1	-29 1168
43 03	G5	11.87:	2	0.385	0.170	0.289	4	2.579	1	-29 1171
43 04	G5	6.96	1	0.625	0.418	0.449	4			-29 1174
43 05	K0	9.83	1	0.499	0.315	0.300	3			-29 1176
43 06	F0	9.65	1	0.206:	0.170:	0.733	3	2.700	1	-29 1178
43 07	K5	11.2	0	0.657	0.495	0.403	3			-29 1179
43 08	G8	11.4	0	0.619	0.379	0.348	2			-29 1181
43 09	K0	7.71	1	0.592	0.406	0.414	3			-29 1182
43 10	K2	11.2	0	0.633	0.316	0.352	2			
43 11	G0	7.85	1	0.387	0.203	0.401	3	2.604	1	-29 1183
101 01		11.90	2	0.617	0.402	0.409	2			
101 02		11.61	4	0.588	0.318	0.392	4			
101 04		12.24	2	0.315	0.174:	0.490:	2			
101 05		12.07	2	0.454	0.233	0.270	2			
101 06		12.22	2	0.343	0.143	0.464	2			
101 07		11.31	2	0.329	0.204	0.378	2			
101 12		11.86	4	0.322	0.140	0.467	4			
101 14		9.68	2	0.563	0.348	0.406	2			+28 1379
101 16		5.78	2	0.217	0.222	0.703	2			+27 1374
101 17		10.38	2	0.548	0.404	0.308:	2			+28 1380
101 18		12.59	2	0.802	0.617	0.430	2			
101 19		9.15	2	0.355	0.155	0.449	2			+28 1381
101 20		12.42:	3	0.539:	0.182:	0.393	3			
101 21		11.55	2	0.321	0.200	0.403:	2			
101 23		11.89	3	0.617	0.362	0.394	3			
101 25		9.62	3	0.397:	0.192	0.485:	3			+27 1377
101 27		11.69	2	0.697	0.647	0.295	2			
101 29		11.74	4	0.230	0.160	0.706	4			
101 30		12.73	2	0.325	0.198	0.479	2			
101 31		12.95	2	0.614	0.281	0.371	2			
101 32		12.20	2	0.348	0.095	0.447	2			
101 33		12.34	3	0.321	0.291	0.354	3			
101 34		12.08	3	0.174	0.038	0.838	3			
101 36		12.41	1	0.608	0.613	0.626	1			
101 37		10.80	2	0.665	0.484	0.358	2			
101 39		11.11	2	0.249	0.166	0.835	2			
101 40		12.84	1	0.293	0.200	0.442	1			
101 41		9.78	2	0.676	0.473	0.395	2			+27 1380
101 42		11.00	2	0.897	0.694	0.283:	2			
101 43		11.16	2	0.324	0.150	0.518	2			+27 1381
101 44		11.96	4	0.353	0.148	0.489	4			
101 45		11.81	3	0.312:	0.115	0.542	3			
101 46		12.58	1	0.365	0.431	0.495	1			
101 47		10.58:	2	1.615	-1.208	2.426	2			
101 48		12.18	2	0.237	0.181	0.723	2			
101 50		12.31	1	0.339	0.075	0.615	1			
101 51		9.84:	2	0.532	0.206	0.481	2			+27 1384
101 52		12.44	1	0.327	0.154	0.758	1			
101 53		12.56	1	0.297	0.114	0.457	1			
101 54		12.58	1	0.474	0.272	0.367	1			
101 57		8.93	1	0.579	0.377	0.440	1			+27 1385
101 58		11.62	2	0.605	0.224:	0.476:	2			
101 61		12.48	1	0.484	0.403	0.575	1			
101 62		11.75	2	0.222	0.162	0.619	2			
101 63		12.66	1	0.502	0.516	0.631	1			
101 64		11.65	2	0.817	0.563	0.396:	2			+28 1391
101 65		9.24	1	0.331	0.168	0.427	1			
101 66		11.99	1	0.652	0.269	0.462	1			
101 67		12.72	1	0.682	0.436	0.364	1			
101 68		12.93	1	0.689	0.524	0.380	1			
101 69		11.82	3	0.311	0.160	0.430	3			
101 70		12.07	1	0.287	0.119	0.567	1			
102 01		7.14	2	0.550	0.303	0.428	2			+31 1574
102 02		11.75	2	0.635	0.318:	0.536:	2			
102 03		9.58	2	0.038	0.168	1.067	2			+31 1576
102 04		8.27	2	0.958	0.744	0.353	2			+32 1550
102 05		10.91	2	0.298	0.171	0.446	2			
102 06		10.08	2	0.327	0.181	0.483	2			+32 1551
102 07		11.50	2	0.308	0.186	0.438	2			
102 08		11.81	2	0.331	0.164	0.357	2			
102 09		9.98	2	0.935	0.692	0.397	2			+32 1554
102 10		11.79	2	0.696	0.377	0.442:	2			
102 11		11.71	2	0.563	0.313:	0.470:	2			
102 12		10.94	2	0.813	0.663	0.446:	2			+31 1581
102 13		9.62	2	0.196	0.237	0.742	2			
102 14		12.58	2	0.184	0.042	0.848	2			
102 15		9.53	2	0.507	0.336	0.402	2			+32 1556
102 16		10.46	2	0.270	0.127	0.540	2			+31 1585
102 17		10.33	2	0.486	0.325	0.335	2			+31 1586
102 18		11.72	2	0.324	0.120	0.593:	2			
102 19		11.89	2	0.344	0.139	0.415	2			
102 20		9.79	2	0.559	0.185	0.483	2			+31 1588

Table 5 (continued)

Field Star Spectral Type										Field Star Spectral Type									
#	#	V	n	(b-y)	m ₁	c ₁	n	β	Comments	#	#	V	n	(b-y)	m ₁	c ₁	n	β	Comments
102	21	11.34	3	0.323	0.134	0.411	3			112	41	12.52	1	0.466	0.293	0.369	1		
102	22	7.71	2	0.542	0.431	0.282	2		+32 1561	112	42	12.43	1	0.345	0.218	0.444	1		
102	23	9.70	2	0.285	0.165	0.471	2		+31 1589	112	43	10.09	2	0.353	0.157	0.413	2		+ 9 1924
102	24	11.85	2	0.442	0.213	0.338	2			112	44	9.33	2	0.787	0.731	0.320	2		+ 9 1926
102	25	11.51	4	0.038	0.130	1.097	4			112	45	12.05	1	0.282	0.187	0.459	1		
102	26	11.87	2	0.986	0.709	0.588	2			112	46	11.19	2	0.602	0.454	0.315	2		
102	27	11.71	2	0.522	0.540	0.581	2		+31 1593	112	47	12.44	1	0.604	0.394	0.346	1		
102	28	11.18	2	0.322	0.161	0.482	2			112	48	11.69	2	0.538	0.425	0.230	2		+ 9 1937
102	29	11.89	4	0.357	0.123	0.513	4			112	49	7.12	3	-0.076	0.114	0.389	3		+ 9 1928
102	30	11.49	4	0.329	0.188	0.397	4			112	50	8.76	3	0.107	0.276	0.634	3		
102	31	10.67	2	0.585	0.271	0.461	2			112	51	12.44	1	0.339	0.133	0.405	1		
102	32	11.84	2	0.784	0.394	0.635	2			112	52	10.94	1	0.556	0.336	0.399	1		
102	33	11.65	2	0.321	0.190	0.378	2			112	53	11.64	3	0.556	0.326	0.516	3		
102	34	10.87	3	0.831	0.589	0.401	3			112	54	12.30	1	0.330	0.160	0.435	1		
102	35	10.22	2	0.395	0.218	0.405	2												
102	36	11.78	2	0.595	0.252	0.458	2												
102	37	8.98	2	0.013	0.161	0.981	2		+31 1599	119	01	8.03	2	0.769	0.643	0.333	2		+18 2022
102	38	11.86	2	0.642	0.289	0.530	2			119	02	11.88	1	0.337	0.169	0.326	1		
102	39	8.98	2	0.589	0.397	0.426	2		+31 1601	119	03	11.64	1	0.204	0.188	0.642	1		
										119	04	10.71	1	0.777	0.436	0.410	1		
										119	05	10.32	1	0.137	0.189	0.878	1		+18 2023
112	01	11.47	2	0.351	0.204	0.302	2			119	06	10.07	2	0.854	0.658	0.394	2		+18 2024
112	02	12.37	1	0.570	0.321	0.402	1			119	07	12.37	1	0.370	0.142	0.405	1		+18 2025
112	03	11.46	2	0.371	0.221	0.402	2			119	08	7.08	2	0.189	0.184	0.310	2		
112	04	11.48	2	0.597	0.446	0.359	2			119	09	11.86	1	0.142	0.114	0.365	1		
112	05	11.61	2	0.381	0.210	0.321	2			119	10	10.98	2	0.859	0.292	0.305	2		
112	06	11.62	2	0.265	0.144	0.451	2			119	11	11.05	2	0.335	0.206	0.321	2		
112	07	13.50	1	0.361	0.166	0.281	1			119	12	11.18	2	0.315	0.157	0.508	2		
112	08	12.44	1	0.620	0.451	0.260	1			119	13	12.36	1	0.621	0.522	0.426	1		
112	09	12.23	3	0.737	0.556	0.520	3			119	14	11.63	2	0.344	0.272	0.384	2		
112	10	11.74	3	0.466	0.300	0.323	3			119	15	12.06	2	0.567	0.282	0.381	2		
112	11	11.99	3	0.665	0.416	0.417	3			119	16	11.80	2	0.372	0.141	0.384	2		
112	12	11.56	2	0.308	0.137	0.474	2			119	17	10.38	2	1.220	0.102	0.515	2		+18 2026
112	13	11.82	1	0.381	0.148	0.429	1			119	18	11.52	3	0.333	0.172	0.373	3		
112	14	11.01	2	0.614	0.418	0.399	2			119	19	9.92	1	0.325	0.162	0.429	1		
112	15	12.30	1	0.566	0.328	0.279	1			119	20	12.63	2	0.325	0.180	0.394	2		
112	16	10.43	3	0.668	0.531	0.366	3		+ 9 1913	119	21	11.83	1	0.364	0.129	0.388	1		
112	17	10.97	2	0.818	0.659	0.354	2			119	22	11.86	2	0.557	0.391	0.440	2		+18 2028
112	18	7.64	2	0.846	0.693	0.314	2		+ 9 1915	119	23	11.88	2	0.557	0.391	0.440	2		
112	19	11.43	2	1.006	0.842	0.216	2			119	24	12.58	2	0.678	0.498	0.394	2		+18 2030
112	20	12.38	1	0.293	0.236	0.417	1			119	25	9.01	2	0.257	0.191	0.518	2		
112	21	10.78	2	0.327	0.157	0.291	2			119	26	11.92	1	0.457	0.225	0.389	1		
112	22	12.20	1	0.346	0.072	0.441	1			119	27	11.53	4	0.365	0.153	0.309	4		
112	23	12.36	2	0.673	0.426	0.383	2			119	28	11.14	1	0.749	0.575	0.336	1		
112	24	12.64	1	0.316	0.123	0.502	1			119	29	12.13	1	0.299	0.150	0.484	1		+18 2034
112	25	9.30	2	0.329	0.160	0.414	2		+ 9 1919	119	30	8.27	1	0.132	0.216	0.830	1		
112	26	10.70	2	0.197	0.203	0.735	2			119	31	9.90	1	0.419	0.284	0.284	1		+18 2036
112	27	12.04	1	0.320	0.177	0.392	1			119	32	11.38	2	0.319	0.140	0.482	2		+18 2039
112	28	11.90	3	0.346	0.170	0.359	3			119	33	10.90	1	0.353	0.137	0.473	1		
112	29	11.64	1	0.396	0.178	0.399	1												
112	30	10.41	1	0.298	0.152	0.444	1		+ 9 1920										
112	31	11.77	1	0.632	0.442	0.378	1			120	01	9.32	3	0.411	0.238	0.347	3		+29 1819
112	32	12.03	2	0.269	0.152	0.690	2			120	02	7.35	3	0.282	0.146	0.470	3		+28 1642
112	33	11.66	2	0.549	0.202	0.508	2			120	03	11.80	2	0.407	0.220	0.372	2		
112	34	11.34	1	0.219	0.171	0.636	1			120	04	11.39	2	0.322	0.215	0.355	2		
112	35	12.06	1	0.505	0.327	0.432	1			120	05	11.05	2	0.593	0.255	0.583	2		+28 1643
112	36	11.96	3	0.595	0.379	0.469	3			120	06	9.48	2	0.332	0.168	0.363	2		+29 1821
112	37	10.64	1	0.345	0.232	0.351	1			120	07	11.25	2	0.413	0.166	0.296	2		
112	38	7.29	2	1.045	0.797	0.237	2		+ 9 1922	120	08	9.40	2	0.925	0.727	0.259	2		+29 1822
112	39	9.97	1	0.300	0.145	0.459	1		+ 9 1923	120	09	11.36	3	0.422	0.202	0.391	3		
112	40	11.84	2	0.307	0.214	0.372	2			120	11	12.31	1	0.558	0.426	0.568	1		

Table 5 (continued)

Field Star Spectral										Field Star Spectral												
#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	n	#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
120	12		12.47	1	0.380	0.171	0.285	1			150	06	G6111	7.49:	4	0.585	0.343	0.388	4			+21 2353
120	13		11.35::	3	0.377	0.141	0.424	3			150	07	G0111	11.38	5	0.363	0.185:	0.362	5	2.621	4	
120	14		12.27	1	0.402	0.160	0.386	1			150	08	K0111	10.47	3	0.607	0.288	0.422	3			+20 2646
120	15		11.52	3	0.498:	0.374:	0.511	3			150	09	K211	9.40	4	0.663	0.480	0.432	4			+21 2354
120	16		11.42	2	0.726	0.419	0.507:	2			150	10	G:	11.77	3	0.647	0.358	0.404	3			
120	17		11.96	2	0.495	0.281	0.467	2			150	11	F0:	12.34	2	0.302	0.123	0.462	2	2.682	2	
120	18		8.72	4	0.842	0.673	0.358	4			150	12	G:	12.20	2	0.566	0.264	0.326	2			
120	22		11.77	2	0.265	0.227	0.348	2			150	13	G5V	11.14	3	0.358	0.155	0.343	3	2.617	4	
120	23		9.19	2	0.669	0.471	0.449	2			150	14	F5I	12.21	5	0.669	0.645	0.150	5			
120	25		11.12	2	0.435	0.140	0.385:	2			150	15	F5I	7.37	3	0.307	0.158	0.458	3	2.651	5	+20 2650
120	26		10.94	2	0.851	0.630	-0.126:	2			150	16	K0111	9.84	3	0.620	0.326	0.394	3			+20 2651
123	01		10.43	2	0.291	0.141	0.615	2			150	17	G0IV	12.02	3	0.394	0.152	0.305:	3	2.613	2	+21 2356
123	02		12.39	2	0.741	0.492	0.373	2			150	18	K1111	11.44	6	0.303	0.112	0.491	6	2.671	4	+21 2359
123	03		11.72	2	0.344	0.186	0.495	2			150	19	M	11.51	4	0.617	0.377	0.553:	4			
123	04		12.07	2	0.298	0.142	0.495	2			150	20	M	12.21	2	0.761	0.674	0.115	2			
123	05		11.13	2	0.637	0.372	0.503	2			150	21	G	12.24	2	0.385	0.159	0.338	2	2.586	2	
123	06		10.74	2	0.672	0.489	0.482	2			150	22	G7IV	11.50	3	0.431	0.207	0.318	3	2.774	5	+21 2361
123	07		10.95	2	0.697	0.523	0.400	2			150	23	A7IV	8.67	3	0.157	0.173	0.858	3			
123	08		10.04	2	0.345	0.154	0.357	2			150	24	G	12.34	2	0.574	0.131	0.302	2	2.577	2	
123	09		10.66	2	0.379	0.234	0.410	2			150	25	G	12.86	2	0.435	0.164	0.350	2	2.601	1	
123	10		11.58	2	0.343	0.131	0.410	2			152	01	G6	12.03	1	0.452	0.228	0.296	1			+38 2283
123	11		10.90	2	0.625	0.421	0.508	2			152	02	K2111	9.91	3	0.506	0.362	0.340	3			
123	12		12.34	2	0.298	0.178	0.306	2			152	03	G	12.53	1	0.458	0.255	0.362	1			
123	13		10.75	2	0.437	0.169	0.345	2			152	04	K0IV	11.75	3	0.488	0.344	0.360	3			
123	14		11.18	2	0.292	0.126	0.822	2			152	05	M0	11.75	4	0.676:	0.516:	0.297	4			
123	15		12.43	2	0.392	0.221	0.351	2			152	06	M0V	11.26	3	0.717	0.645:	0.233:	3			
123	16		6.68	2	0.789	0.601	0.344	2			152	07	G2111	11.83	4	0.375:	0.207:	0.349	4	2.610	1	
123	17		12.04	3	0.371	0.141	0.432	3			152	08	G5V	11.98	4	0.498	0.317:	0.432	4			
123	18		12.37	2	0.525	0.272	0.334	2			152	09	K111	10.90	2	0.636	0.423	0.446	2			
123	19		10.78	2	0.618	0.344	0.437	2			152	10	F8	12.36	1	0.357	0.139	0.428	1	2.643	1	
123	20		8.95	2	1.138	0.556	0.467	2			152	11	G	12.34	1	0.393	0.121	0.402	1	2.624	1	
123	21		12.58	1	0.404	0.220	0.352	1			152	12	K2111	9.70	3	0.718	0.453	0.433	3			+38 2286
123	22		12.55	2	0.694	0.488	0.302	2			152	13	F8111	10.34	3	0.531	0.263	0.203	3	2.621	1	+38 2287
123	23		9.71	2	0.171	0.217	0.822	2			152	14	G	12.40	1	0.431	0.235	0.244	1			
123	24		12.63	2	0.649:	0.541	0.118:	2			152	15	G	12.42	1	0.431	0.180	0.232	1			
123	25		10.95	2	0.297	0.153	0.476	2			152	16	F6I	9.05	3	0.299	0.172	0.456	3	2.667	1	+38 2288
123	26		10.19	2	0.407	0.178	0.409	2			152	17	F6I	11.99	1	0.371	0.220	0.318	1	2.617	1	+38 2289
123	27		9.94	2	0.350	0.158	0.436	2			152	18	K0111	9.47	3	0.589	0.333	0.409	3			
123	28		11.29	2	0.544	0.288	0.480:	2			159	01	G5111	11.86:	2	0.408:	0.302	0.282	2			
123	29		12.34	2	0.437	0.189	0.423	2			159	02	F9111	10.58	2	0.368	0.115	0.354	2	2.605	1	
123	30		11.63	2	0.607	0.300	0.484	2			159	03	G6111	11.29	2	0.644	0.404	0.488	2			
123	31		11.17	2	0.645	0.413	0.385	2			159	04	G5111	11.43	2	0.708:	0.449	0.518::	2			
123	32		12.50	2	0.460:	0.198:	0.311	2			159	05	F8111	12.34:	2	0.537	0.134	0.396:	2	2.591	1	
123	33		11.42	2	0.419	0.246	0.330	2			159	06	G8111	11.70	2	0.454	0.357	0.342	2			
123	34		12.62	2	0.346	0.112	0.540	2			159	07	G8111	11.67	2	0.521	0.238	0.435	2			
123	35		10.09	2	0.312	0.125	0.523	2			159	08	G8111	10.64	2	0.531	0.238	0.435	2			
123	36		12.13	2	0.740	0.523	0.311	2			159	09	G0IV	11.79	2	0.385	0.128	0.324	2	2.605	1	+42 2320
123	37		9.83	2	0.317	0.175	0.449	2			159	10	G0	12.47::	2	0.390::	0.330:	0.279	2	2.565	1	
123	38		12.19	2	0.399	0.175	0.378	2			159	11	G5	12.10:	2	0.493:	0.344:	0.378	2			
123	39		8.37	2	0.773	0.597	0.315	2			159	12	K211-III	9.74	2	0.751	0.566	0.568	2			+42 2322
150	01	K1111	11.07	3	0.487	0.343:	0.369	3			159	13	F0111	9.79	2	0.200	0.157	0.613	2	2.706	1	+42 2323
150	02	G3111	11.28	3	0.413	0.215:	0.322	3			159	14	G0IV	11.62::	2	0.353	0.081:	0.493	2	2.602	1	
150	03	G8111	11.50	3	0.635	0.441:	0.381	3			159	15	M0V	11.66	2	1.002	0.286::	0.591::	2			
150	04	K	12.79	2	0.559	0.332	0.341	2			159	16	G	12.86	2	0.371::	0.348:	0.231:	2	2.612	1	+41 2307
150	05	G3111-IV	11.47	6	0.415	0.187	0.286	6			159	17	G5IV	10.61	2	0.462	0.278	0.327	2	2.636	1	
											159	18	F9IV	11.71	2	0.347	0.171	0.395	2			
											159	19	K	12.50	1	0.603	0.283	0.710	1			

Table 5 (continued)

Field Star										Field Star									
#	#	Spectral Type	V	n	(b-y)	m ₁	c ₁	n	β	n	β	n	β	n	β	n	β	n	β
166 01	01	G0III	10.88	2	0.619	0.446	0.513	2		173 11	G:	13.03	2	0.437	0.424	-0.015	2		
166 02	G5III	10.45	2	0.624	0.443	0.416	2			173 12	G:	12.79	2	0.462	-0.025	2			
166 03	G6III	11.45	2	0.605	0.328	0.484	2			173 13	F:	12.31	2	0.318	0.130	0.402	2	2.656	2
166 04	K7	12.82	2	0.571	0.516	0.277	2			173 14	G8II	10.46	2	0.578	0.349	0.340	2		
166 05	G5IV	11.08	2	0.400	0.193	0.364	2	2.603	2	173 15	K2II	9.69	2	0.654	0.516	0.426	2		
166 06	G	12.03	2	0.348	0.131	0.447	2	2.643	4	173 16	K	12.95	2	0.533	0.164	0.266	2		
166 07	K	11.50	2	0.693	0.502	0.450	2			173 17	G5IV	11.21	2	0.427	0.171	0.201	2		
166 08	G0IV	11.70	2	0.401	0.144	0.377	2	2.560	3	173 18	K:	12.62	1	0.429	0.148	0.223	2		
166 09	G0III	10.76	2	0.401	0.144	0.377	2			173 19	K:	12.62	1	0.429	0.148	0.223	2		
166 10	G0III	11.70	2	0.673	0.455	0.408	2			173 20	K0II	8.59	2	0.603	0.390	0.433	2	2.610	2
166 11	G	12.43	2	0.314	0.268	0.342	2	2.564	3	173 21	K0	12.16	2	0.413	0.355	0.151	2		
166 12	G0	11.58	2	0.355	0.129	0.434	2	2.591	5	173 22	K2IV	11.23	2	0.528	0.297	0.421	2		
166 13	G0	10.46	2	0.820	0.569	0.480	2			173 23	G:	11.87	2	0.355	0.232	0.176	2	2.616	3
166 14	K0III	9.52	2	0.517	0.319	0.406	2			173 24	F:	11.51	2	0.338	0.132	0.462	2	2.645	3
166 15	G	12.33	2	0.297	0.244	0.350	2	2.606	4	173 25	K3IV	11.31	2	0.556	0.358	0.365	2		
166 16	G	12.69	2	0.362	0.098	0.410	2	2.600	2	173 26	G8III	10.47	2	0.605	0.366	0.416	2		
166 17	G5	12.46	2	0.374	0.192	0.520	2	2.613	3	173 27	G-K	12.84	2	0.798	0.228	0.290	2		
166 18	G5	11.70	2	0.495	0.308	0.378	2			173 28	G	12.91	2	0.459	0.086	0.353	2	2.622	1
166 19	G	12.87	2	0.301	0.015	0.410	2			173 29	G0III	11.48	2	0.361	0.101	0.359	2	2.582	2
166 20	K	12.74	2	0.425	0.329	0.282	2												
166 21	F8IV	11.12	2	0.364	0.116	0.447	2	2.630	4	174 01	G5III	11.00	3	0.434	0.233	0.347	3	2.558	1
166 22	G	12.36	2	0.513	0.023	0.370	2			174 02	G1II	11.06	3	0.326	0.146	0.376	3	2.607	4
166 23	G6IV	10.89	2	0.440	0.340	0.403	2	2.639	5	174 03	K1II	11.00	2	0.689	0.478	0.574	2		
166 24	G	12.82	2	0.347	0.140	0.403	2			174 04	K1II	10.37	2	0.657	0.459	0.494	3		
166 25	F8III	9.52	2	0.380	0.111	0.397	2	2.608	5	174 05	G-K	12.30	2	0.750	0.413	0.455	2		
166 26	G5IV	10.94	2	0.418	0.249	0.379	2			174 06	K	11.93	4	0.729	0.494	0.562	4		
166 27	G0III	12.19	2	0.528	0.325	0.324	2			174 07	G8IV	11.23	2	0.475	0.337	0.328	2		
166 28	G	12.28	2	0.588	0.291	0.421	2			174 08	F:	12.28	2	0.344	0.154	0.381	2	2.678	3
166 29	G	12.43	2	0.305	0.186	0.400	2	2.652	2	174 09	F2III	11.38	2	0.300	0.161	0.399	2	2.658	4
168 01	G5III	10.82	2	0.419	0.199	0.342	2			174 10	G-K	12.48	2	0.466	0.242	0.315	2		
168 02	K0IV	10.45	2	0.466	0.392	0.466	2			174 11	G5III	8.21	3	0.554	0.319	0.405	3	2.874	4
168 03	G5III	10.89	2	0.402	0.229	0.466	2			174 12	A3III	8.90	3	0.090	0.179	1.053	3	2.888	3
168 04	G0IV	11.52	2	0.309	0.143	0.457	2	2.645	2	174 13	G5	12.21	2	0.308	0.189	0.476	2		
168 05	G0IV	11.21	2	0.360	0.208	0.311	2	2.586	3	174 14	G5	11.69	5	0.633	0.339	0.505	5		
168 06	G8	12.75	2	0.420	0.350	0.310	2			174 15	G5	11.59	5	0.614	0.313	0.512	5		
168 07	K	12.74	2	0.561	0.387	0.081	2			174 16	G8III	11.22	3	0.572	0.289	0.407	3		
168 08	G6	11.77	2	0.505	0.223	0.439	2			174 17	G2III	11.69	3	0.379	0.182	0.370	3	2.608	3
168 09	F8III	11.70	2	0.311	0.149	0.347	2	2.579	2	174 18	G	12.25	2	0.285	0.173	0.467	2	2.649	2
168 10	G8III	9.67	2	0.528	0.268	0.408	2			174 19	G0	11.92	5	0.339	0.192	0.394	5	2.615	5
168 11	G8	12.14	2	0.425	0.177	0.259	2			174 20	G5III	11.76	5	0.410	0.170	0.438	5		
168 12	G	12.19	2	0.539	0.426	0.187	2			174 21	G	12.46	2	0.392	0.211	0.305	2	2.578	2
168 13	G2IV	10.65	2	0.345	0.224	0.377	2	2.607	4	174 22	G	12.75	1	0.425	0.197	0.310	1	2.552	1
168 14	F-G	12.79	2	0.155	0.368	0.408	2	2.625	1	174 23	G0III	11.75	5	0.368	0.187	0.333	5	2.574	3
168 15	F9IV	10.56	2	0.339	0.151	0.448	2	2.631	5	174 24	G	13.83	2	0.330	0.145	0.381	2	2.506	1
168 16	K2	11.65	2	0.546	0.449	0.391	2												
168 17	G0IV	12.42	2	0.351	0.274	0.298	2			175 01	F8III	11.08	3	0.338	0.137	0.375	3	2.605	1
168 18	K1IV	11.57	2	0.623	0.441	0.502	2			175 02	G2III	10.91	3	0.369	0.142	0.337	3	2.613	2
168 19	G5	11.97	2	0.391	0.171	0.465	2			175 03	F6III	10.64	3	0.299	0.186	0.365	3	2.652	1
168 20	G5	11.97	2	0.391	0.171	0.465	2			175 04	G2III	11.08	2	0.642	0.349	0.449	2		
173 01	F	12.27	2	0.284	0.214	0.236	2	2.624	3	175 05	G2III	12.09	2	0.345	0.178	0.417	2	2.602	1
173 02	M0III	10.46	2	0.880	0.766	0.418	2			175 06	K0IV	10.98	3	0.468	0.333	0.320	3		
173 03	F2III	11.55	2	0.254	0.106	0.591	2	2.719	3	175 07	K4III	7.38	3	0.539	0.417	0.349	3		
173 04	G8	11.98	2	0.651	0.375	0.548	2			175 08	K2III	9.57	2	0.823	0.646	0.319	2		
173 05	F8III	11.41	2	0.305	0.205	0.346	2	2.641	3	175 09	G5IV	11.72	2	0.434	0.264	0.368	2		
173 06	G8III	12.04	2	0.507	0.299	0.458	2			175 10	K	12.14	2	0.595	0.418	0.526	2		
173 07	G-K	13.23	2	0.422	0.188	0.438	2			175 11	G5	12.51	2	0.357	0.208	0.281	2	2.567	1
173 08	F9III	10.56	2	0.352	0.149	0.355	2	2.628	6	175 12	M2V	10.26	2	0.972	0.460	0.038	2		
173 09	K0III	9.84	2	0.630	0.405	0.449	2			175 13	G8	11.91	2	0.647	0.241	0.482	2		
173 10	F0II	8.16	2	0.196	0.229	0.651	2	2.751	5	175 14	G5	12.02	2	0.434	0.243	0.270	2		
										175 15	M0III	8.33	3	0.972	0.176	0.325	3		

Table 5 (continued)

Field Star		Spectral	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
#	#	Type									
176 01	G5		12.47	2	0.449	0.283	0.361	2			
176 02	K		14.84	2	0.581	0.104	0.412	2			
176 03	G2IIII		11.10	3	0.368	0.223	0.361	3	2.610	2	
176 04	K		12.27	2	0.578	0.476	0.244	2			
176 05	G3		11.82	5	0.389	0.128	0.447	5	2.641	2	
176 06	K2IIII		11.09	3	0.700	0.530	0.329	3			
176 07	M		12.99	2	0.659	0.596	0.224	2			
176 08	G2IIII		11.20	3	0.366	0.217	0.354	3	2.619	2	
176 09	F5IIII		10.49	3	0.384	0.254	0.384	3	2.676	3	+11 2564
176 10	G		12.36	2	0.373	0.152	0.209	2	2.559	2	
176 11	M		13.67	2	0.475	0.046	0.294	2			
176 12	M0IIII		6.66	3	0.324	0.768	0.330	3	2.544	1	+11 2568
176 13	G2IIII		11.73	4	0.350	0.141	0.376	4	2.641	2	
176 14	K4IIII		11.29	4	0.623	0.433	0.316	4			
176 15	F8IIII		10.68	4	0.325	0.149	0.416	4	2.654	3	
176 16	K		12.71	2	0.543	0.400	0.274	2			
176 17	F3IV		10.01	4	0.262	0.123	0.477	4	2.680	4	+11 2590
176 18	G3IV		10.64	4	0.444	0.161	0.316	4			
176 19	K		12.76	1	0.442	0.173	0.327	1			
176 20	G		12.91	1	0.401	0.256	0.418	1			
177 01	G8IV		10.14	2	0.568	0.288	0.417	2			
177 02	K		11.43	2	0.444	0.085	0.440	2			
177 03	G2IIII		11.59	2	0.420	0.112	0.534	2			
177 04	F		12.69	2	0.222	0.311	0.326	2	2.631	1	
177 05	G6		11.88	2	0.540	0.428	0.662	2			
177 06	K0IIII		9.92	2	0.593	0.271	0.500	2			
177 07	K2		12.02	2	0.548	0.453	0.367	2			+18 2798
177 08	K2IIII		10.31	3	0.661	0.415	0.413	3			+19 2726
177 09	F		12.84	2	0.222	0.256	0.518	2	2.681	1	SEE NOTE 9
177 10	G		12.88	2	0.399	0.348	0.150	2	2.574	1	
177 11	G3IIII		10.77	2	0.414	0.253	0.284	2			
177 12	M0IIII		7.88	2	0.975	0.784	0.311	2			+19 2727
177 13	K		12.90	1	0.436	0.114	0.277	1			+19 2728
177 14	G2IV		10.34	2	0.504	0.129	0.319	2			+19 2729
177 15	F		12.71	2	0.114	0.194	0.610	2	2.803	1	
177 16	G		12.33	2	0.484	0.337	0.274	2			
177 17	G		12.63	2	0.239	0.398	0.644	2	2.619	1	
179 01	K2IIII		10.44	2	0.501	0.379	0.372	2			
179 02	G2IIII		11.56	2	0.349	0.197	0.241	2	2.649	2	
179 03	M0IIII		8.18	2	1.038	0.694	0.418	2			+20 2945
179 04	K		11.99	2	0.636	0.407	0.399	2			
179 05	G2IV		10.98	2	0.356	0.172	0.365	2	2.635	3	
179 06			12.34	2	0.385	0.191	0.187	2	2.623	1	
179 07	F		12.08	2	0.571	0.537	0.097	2			
179 08	F6IIII		8.99	2	0.324	0.172	0.463	2	2.666	5	+19 2769
179 09	G8		11.62	1	0.665	0.371	0.406	1			
179 10	K0IV		11.09	2	0.751	0.496	0.385	2			
179 11	G		12.25	2	0.571	0.576	0.431	2			SEE NOTE 13
179 12	A5V		9.25	2	0.356	0.229	0.787	2	2.835	4	+20 2952
179 13	G4IIII		9.24	2	0.404	0.227	0.327	2			+19 2768
179 14	K		11.74	2	0.611	0.442	0.227	2			SEE NOTE 13
179 15	K		12.46	2	0.661	0.545	-0.014	2			SEE NOTE 13
179 16	G1IV		10.62	2	0.367	0.220	0.406	2	2.623	4	+19 2780
179 17	G4		11.67	2	0.429	0.119	0.454	2			
179 18	G5IIII		10.38	2	0.581	0.252	0.311	2			+19 2781
179 19	A4F		11.76	2	0.238	0.223	0.710	2	2.796	2	
179 20	G3IV		12.03	2	0.373	0.158	0.485	2	2.566	1	
179 21	K0IIII		10.45	2	0.642	0.388	0.427	2			+20 2955
179 22	G8IV		11.30	2	0.647	0.348	0.432	2			
179 23	K1IIII		10.51	2	0.659	0.425	0.368	2			
184 01	K1IIII		11.65	2	0.537	0.384	0.399	2			
184 02	K2IIII		12.42	3	0.745	0.557	0.419	3			+19 2866
184 03	G5		11.48	2	0.391	0.236	0.302	2			
184 04	G		11.37	3	0.505	0.248	0.434	3			
184 06	K2		12.44	3	0.567	0.272	0.443	3			
184 07	G		12.89	2	0.398	0.145	0.407	2	2.527	3	
184 08	F		12.47	3	0.360	0.122	0.476	3	2.594	2	
184 09	G2IIII		11.10	3	0.496	0.529	0.168	3			
184 10	F8IIII		11.65	2	0.292	0.201	0.439	2	2.627	5	
184 11	K		13.07	2	0.474	0.294	0.375	2			
184 12	G		12.77	2	0.585	0.312	0.419	2			
184 13	G		12.22	2	0.629	0.408	0.431	2			
184 14	K1		11.16	2	0.844	0.647	0.152	2			
184 15			12.79	2	0.448	0.158	0.365	2			
184 16	G		13.14	2	0.401	0.169	0.361	2	2.536	2	
184 17	G		12.58	2	0.530	0.254	0.336	2			
184 18	K2IIII-I		9.09	3	0.780	0.603	0.425	3			+19 2872
184 19	K2IIII		10.26	3	0.602	0.390	0.440	3			+19 2871
184 20	G		12.51	2	0.547	0.400	0.381	2			
184 21	M2IIII		8.49	3	1.163	0.619	0.456	3			+19 2873
184 22	G1		11.86	5	0.407	0.254	0.293	5			
184 23	G		12.80	2	0.354	0.167	0.437	2	2.631	3	
184 24	G		12.74	2	0.355	0.145	0.378	2	2.531	2	
184 25	A2IIII		12.65	2	0.146	0.185	0.839	2	2.788	4	
184 26	G		12.19	2	0.430	0.233	0.302	2			
184 27	G		13.07	2	0.407	0.187	0.336	2	2.539	1	
184 28	G5		11.60	3	0.365	0.134	0.375	3	2.636	5	
184 29	G		12.14	2	0.353	0.106	0.426	2	2.624	3	
184 30	K2IIII		8.13	3	0.595	0.409	0.441	3			+19 2875
184 31	G		12.04	2	0.349	0.155	0.417	2	2.614	4	
184 32	F5IIII		6.98	3	0.304	0.172	0.408	3	2.667	6	+19 2877
184 33	K2IIII		10.45	3	0.668	0.579	0.303	3			
189 01	K1		12.07	2	0.518	0.376	0.257	2			
189 02	G8		12.41	2	0.507	0.324	0.317	2			
189 03	K0		11.57	5	0.618	0.313	0.440	5			
189 04	K0IIII		11.72	2	0.564	0.361	0.416	2			
189 05	K0		12.55	2	0.577	0.301	0.352	2			
189 06	M		13.00	2	0.671	0.376	0.445	2			
189 07	K0IIII		7.11	3	0.614	0.378	0.431	3			+40 2838
189 08	K1IIII		10.65	3	0.642	0.436	0.424	3			
189 09	K		12.68	2	0.629	0.278	0.462	2			+41 2548
189 10	K1IIII		8.76	3	0.590	0.395	0.365	3			
189 11	K		12.29	3	0.614	0.338	0.383	3			
189 12	K1		11.70	2	0.444	0.248	0.343	2			
189 13	F5IIII		10.45	3	0.281	0.149	0.526	3	2.694	3	+41 2549
189 14	F8IIII		9.43	3	0.569	0.174	0.435	3	2.619	3	+40 2841
189 15	G0		12.11	3	0.353	0.157	0.336	3	2.635	2	
189 16	G		13.07	3	0.387	0.104	0.370	3	2.648	1	
189 17	G		12.21	3	0.637	0.387	0.413	3			
189 18	K		12.79	3	0.575	0.491	0.290	3			
189 19	G6		11.89	6	0.419	0.247	0.367	6			
189 20	G-K		12.32	2	0.372	0.188	0.435	2	2.607	3	

Table 5 (continued)

Field Star Spectral											Field Star Spectral											
#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	Comments	#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	Comments	
327	01	A0	9.26	3	0.094	0.140	0.998	4	2.883	3	-24 17467	346	01	G2	11.96	3	0.428	0.098:	0.281	3	2.606:	3
327	02	G8	12.5	0	0.586	0.271	0.384	1	2.502	2	-24 17479	346	02	G8	9.48	3	0.664	0.447	0.406	3		- 9 41
327	03	F5	8.48	1	0.260	0.178	0.544	2	2.692	2		346	03	G8	12.19	2	0.522	0.299	0.420	2		- 9 42
327	04	G5	12.4	0	0.449	0.240	0.194	1	2.553	1		346	04	G2	11.61	3	0.448	0.200	0.363	3	2.559	3
327	05	G5	12.3	0	0.427	0.152	0.257	1	2.608	2		346	05	K2	12.03	3	0.660	0.574	0.317:	3	2.466:	3
327	06	G8	12.5	0	0.483	0.277	0.380	1			-24 17482	346	06	G0	11.92	3	0.438:	0.231	0.458	3	2.538	3
327	07	G2	11.8	0	0.493	0.239	0.401	1	2.924	3	-24 17483	346	07	G2	10.27	1	0.347	0.197	0.397	1	2.627	3
327	08	F5	11.6	0	0.352	0.117	0.393	1	2.627	4	-24 17487	346	08	G5	10.51	1	0.413	0.205	0.324	1	2.610	3
327	09	F0	9.67	1	0.228:	0.150	0.661	2	2.735	1	-24 17488	346	09	K0	10.45	3	0.512	0.258	0.277	3		- 9 47
327	10	K2	9.31	1	0.704	0.439	0.439	2	2.574	1	-24 17490	346	10	F8	8.90	1	0.365	0.144	0.427	1	2.636	3
327	11	G2	10.7	0	0.421	0.180	0.330	1	2.597	3	-24 17491	346	11	G0:	12.39	3	0.394	0.133	0.310	3	2.588:	3
327	12	A-F:	12.8	0	0.386	0.116	0.405	1	2.627	3		346	12	K0:	12.52	3	0.623	0.435	0.412:	3		- 9 55
327	13	K2	10.2	2	0.777	0.532	0.447	3	2.557	2	-24 17499	346	13	A8	9.38	1	0.222	0.172	0.728	1		
327	14	G5	10.84	2	0.375	0.183	0.338	4	2.611	5	-24 17501											
327	15	G5	11.1	0	0.602	0.343	0.393	1			-24 17502											
327	16	F5	11.79	1	0.363	0.036	0.344	2	2.598	3	-24 17503	350	01	G5	12.55	3	0.635:	0.447:	0.435	3	2.507	3
327	17	F0	12.08	1	0.377	0.039	0.301	2	2.596	3	-24 17504	350	02	F8:	12.89	3	0.366:	0.285:	0.302	3	2.622	2
327	18	F0	12.02	1	0.373	0.152	0.351	2	2.603	3	-24 17506	350	03	G5	13.08	2	0.385	0.324	0.324	2	2.610:	2
327	19	K0:	12.3	0	0.579	0.469	0.261	1				350	04	G5	11.80:	3	0.529	0.346	0.384	3	2.525	3
327	20	K0	10.81	1	0.528	0.330	0.316	2			-24 17507	350	05	G2	12.80	2	0.497	0.208	0.430	2	2.496	2
328	01	F2	11.60	3	0.312	0.138	0.485	3	2.694	3	-23 17762	350	06	G5	13.25	2	0.536:	0.388:	0.350	2	2.433:	2
328	02	F2	11.28	3	0.293	0.171	0.369	3	2.686	3	-23 17763	350	07	G2	12.56	3	0.450	0.246	0.449	3	2.588	3
328	03	G2	11.75	3	0.373:	0.257:	0.415	3	2.638	3	-22 16215	350	08	K2	10.96	4	0.369	0.166	0.313	4	2.601:	4
328	04	K0	11.81	2	0.538	0.229	0.450	2	2.513	2	-23 17766	350	09	K2	12.43	2	0.604	0.484	0.208	2		
328	05	K2	11.08	3	0.562	0.358	0.334	3	2.522	3	-23 17769	350	10	G5	12.27	2	0.504:	0.187:	0.526:	2	2.562:	2
328	06	G0	11.71	3	0.353:	0.227:	0.296	3	2.570	3	-23 17771	350	11	F8	13.22	2	0.312	0.082:	0.580	2	2.630:	2
328	07	G5	11.23	3	0.543	0.288:	0.397	3	2.597	3	-23 17783	350	12	G2	12.05	2	0.482	0.172	0.334	2	2.501	2
328	08	G0	11.67	2	0.366	0.170	0.378	2	2.600	2	-22 16228	350	13	F8	13.22	2	0.322:	0.132:	0.354:	2	2.589	2
328	09	G2	11.57	3	0.380	0.166	0.337	3	2.600	3	-23 17784	350	14	K0	9.81:	4	0.653:	0.448	0.449	4		
328	10	K2	9.85	3	0.578	0.332	0.417	3	2.567	3	-22 16232	352	01	K0	11.00	2	0.578	0.260	0.373	2		-11 146
328	11	K5	11.57	2	0.614	0.570	0.138	3	2.569	2	-23 17786	352	02	K0	10.80	3	0.651	0.423	0.391	3	2.575	1
328	12	F2	10.57	3	0.298	0.158	0.434	3	2.628	3	-23 17787	352	03	K2	7.99	3	0.727	0.578	0.431	3	2.575	1
328	13	G5	10.96	3	0.454	0.239:	0.307	3	2.545	3	-23 17788	352	04	K0	10.55	3	0.318	0.208	0.412	3	2.632	3
332	01	K0	7.89	2	0.657	0.471	0.421	2	2.574	2	-14 6429	352	05	K2	10.34	3	0.527	0.449	0.287	3		-11 151
332	02	G2	10.48	2	0.364	0.213	0.428	2	2.574	2		352	06	G5	10.33	3	0.422	0.236	0.406	3	2.621	3
332	03	K2	10.62	2	0.638	0.425	0.428	2	2.601:	2	-14 6430	352	07	G5	9.95	3	0.382	0.221	0.393	3	2.662	3
332	04	G5	10.83	2	0.537	0.304	0.428	2	2.577	2		352	08	G2:	11.55	3	0.403	0.188	0.282	3	2.598	3
332	05	M0	11.64	2	0.854:	0.380:	0.175:	2	2.492	2	-14 6432	352	09	M2	10.17	3	1.088	0.614:	0.486:	3		-11 155
332	06	K5	12.00	2	0.625:	0.395:	0.408:	2	2.460:	2		352	10	F5	11.69	3	0.339	0.153	0.355	3	2.599	3
332	07	K2	12.11	2	0.548:	0.451:	0.697:	2	2.554	2		352	11	G2	10.55	3	0.371	0.147	0.388	3	2.618	3
332	08	F2	11.39	3	0.280	0.144	0.481	3	2.720:	3		352	12	G2	10.65	4	0.366	0.160	0.354	4	2.611	4
332	09	F5	11.75:	2	0.373:	0.087	0.455	2	2.602:	2		352	13	F0	10.91	4	0.302	0.086	0.356	4	2.622	4
332	10	F5	11.79	2	0.380	0.144	0.288	2	2.681	2		352	14		11.20	3	0.038	0.010	-0.193	3	2.567	3
332	11	M0	10.37	1	0.879	0.689	0.437	1	2.578	1	-14 6436											
332	12	F8	11.99:	2	0.401	0.030	0.421	2	2.595:	2		356	01	G0	9.95	1	0.388	0.183	0.394	3	2.599	2
332	13	K5	11.98:	2	0.741:	0.521:	0.571:	2	2.536:	2		356	02	K2	11.45	1	0.359	0.182	0.380	3	2.612	2
332	14	G5	7.76	3	0.525	0.292	0.349	3	2.553	3	-14 6438	356	03	F0	7.92	1	0.361	0.186	0.314	3	2.590	2
332	15	G5	11.94	2	0.616	0.350	0.111	2	2.616	2		356	04	F0	7.92	1	0.361	0.186	0.314	3	2.590	2
332	16	F8	11.34:	5	0.345:	0.169:	0.409	5	2.662	5	SEE NOTE 14	356	05	F8	9.84	1	0.324	0.148	0.431	3	2.681	2
332	17	K0	6.56	3	0.772	0.550	0.271	3	2.554	2	SEE NOTE 15	356	06	F:	12.03	1	0.354:	0.135	0.364	3	2.605	2
332	18	K0	10.47	2	0.628	0.455	0.271	2	2.554	2		356	07	G0:	11.8	0	0.377	0.154	0.284	3	2.593	2
332	19	G0	9.50	2	0.362	0.209	0.343	3	2.625	2	-14 6442	356	08	G2:	12.4	0	0.425	0.206	0.423	2	2.523	1
332	20	G5	10.30	3	0.403	0.225	0.410	3	2.605	3	SEE NOTE 16	356	09	G2:	12.5	0	0.394	0.186	0.327	2	2.570	2
332	21	G0	11.27	5	0.358	0.168	0.319	5	2.558	5	SEE NOTE 17	356	10	G2	11.20	2	0.382	0.184	0.328	3	2.523:	2
332	22	G0	10.32	1	0.326	0.148	0.423	1	2.633	1	-14 6446	356	11	G:	12.8	0	0.431	0.255	0.440	2	2.602	1
332	23	K0	9.01	2	0.610	0.443	0.400	2	2.576	2	-14 6447	356	12	K2	12.0	0	0.674	0.439	0.485	2	2.607	1
												356	13	G0	11.00	1	0.401	0.170	0.364	3	2.607	1
												356	14	F0	12.5	0	0.183	0.030	1.126	2	2.728	1
												356	15	G5	10.61	1	0.407	0.175	0.370	3	2.585	2

Table 5 (continued)

Field Star Spectral										Field Star Spectral											
#	#	Type	V	n	(b-y)	m ₁	c ₁	n	β	n	β	n	c ₁	n	β	n	c ₁	n	β	n	Comments
356 16	G8		11.2	0	0.640	0.303	0.398	2		2											
356 17	F8		12.6	0	0.352	0.171	0.399	2		2											
356 18	K2		10.6	0	0.627	0.446	0.425	2		2											
359 01	F5		10.94	2	0.317	0.177	0.359	2	2.623	3											
359 02	F5		11.16	3	0.310	0.167	0.506	3	2.657	4											
359 03	G2		10.45	3	0.358	0.163	0.355	3	2.618	3											
359 04	K2		7.67	2	0.656	0.504	0.478	2	2.571	2											
359 05	G8		11.18	2	0.507	0.257	0.269	2	2.564	1											
359 06	G2		10.73	2	0.355	0.232	0.425	2	2.627	3											
359 07	F5		10.75	2	0.312	0.199	0.427	2	2.623	3											
369 01	G8		11.00	3	0.594	0.361	0.443	3	2.563	3											
369 02	G0		11.76	2	0.372	0.174	0.302	2	2.573	2											
369 03	F8		12.11	2	0.358	0.227	0.249	2	2.742	2											
369 04	G0		12.30	2	0.400	0.087	0.404	2	2.653	2											
369 05	G2		11.39	3	0.490	0.136	0.482	3	2.583	3											
369 06	G5		12.35	2	0.499	0.205	0.603	2	2.571	2											
369 07	F5		11.70	2	0.305	0.191	0.330	2	2.605	2											
369 08	G0		10.63	2	0.357	0.193	0.302	2	2.569	2											
369 09	F8		11.91	2	0.323	0.208	0.325	2	2.618	2											
369 10	G2		11.70	3	0.369	0.136	0.447	3	2.636	2											
369 11	F5		8.91	2	0.295	0.156	0.489	2	2.692	2											
369 12	F2		11.38	3	0.321	0.139	0.451	3	2.652	3											
369 13	G8		9.86	2	0.451	0.300	0.305	2	2.589	2											
369 14	F5		12.51	2	0.474	0.367	0.250	2	2.710	2											
369 15	F-G		12.67	2	0.443	0.196	0.343	2	2.623	2											
369 16	K2		10.75	2	0.602	0.356	0.417	2	2.634	2											
369 17	K2		10.42	2	0.633	0.410	0.443	2	2.558	2											
369 18	F2		11.39	3	0.314	0.127	0.448	3	2.693	3											
369 19	F5		11.29	3	0.353	0.103	0.440	3	2.671	2											
369 20	G0		10.43	2	0.394	0.181	0.290	2	2.647	2											
371 01	F5		8.38	3	0.334	0.144	0.350	6	2.640	4											
371 02	F8		10.38	3	0.347	0.155	0.527	7	2.605	4											
371 03	K0		11.66	5	0.508	0.388	0.328	7	2.690	1											
371 04	G5		11.83	2	0.406	0.176	0.390	4	2.619	3											
371 05	K0		10.47	2	0.579	0.370	0.355	4													
371 06	F8		9.27	3	0.332	0.168	0.463	5	2.581	3											
371 07	G5		11.30	3	0.384	0.193	0.336	5	2.587	4											
371 08	K0		11.66	2	0.559	0.324	0.403	3													
371 09	G8		10.66	3	0.423	0.220	0.360	5	2.605	3											
371 10	K2		9.43	3	0.675	0.503	0.450	4	2.581	2											
371 11	G5		11.26	3	0.368	0.177	0.412	5	2.607	3											
542 01	G9III		10.99	4	0.516	0.276	0.411	4													
542 02	G3		12.20	2	0.409	0.193	0.294	2													
542 03	G		12.21	2	0.466	0.286	0.313	7													
542 04	K		12.03	7	0.760	0.639	0.378	7													
542 05	G3III		10.95	5	0.401	0.207	0.348	5													
542 06	K		12.26	2	0.429	0.215	0.415	2													
542 07	K		12.82	2	0.570	0.323	0.409	2													
542 08	G		12.59	2	0.418	0.274	0.277	2													
542 09	G0		12.07	7	0.352	0.167	0.390	7	2.638	1											
542 10	G0IV		10.64	4	0.379	0.158	0.325	4	2.612	1											
542 11	G		12.96	2	0.322	0.225	0.393	2	2.632	2											
542 12	K		12.57	2	0.484	0.287	0.454	1													
542 13	G		12.59	2	0.385	0.132	0.420	2													
542 14	K		12.01	7	0.522	0.468	0.220	7													
551 01	F-G		12.77	1	0.310	0.165	0.369	1	2.635	3											
551 02	G7III		11.01	3	0.501	0.265	0.333	3													
551 03	F-G		12.66	1	0.317	0.131	0.452	1	2.659	3											
551 04	G		12.74	1	0.454	0.265	0.308	1													
551 05	G9III		10.93	4	1.096	0.698	0.443	4													
551 06	F8III		10.38	4	0.359	0.191	0.366	4	2.614	4											
551 07	G		13.10	1	0.403	0.271	0.318	1	2.620	1											
551 08	G0III		10.40	3	0.380	0.190	0.345	3	2.619	4											
551 09	G		12.34	1	0.926	0.466	0.535	1													
551 10	G0III		11.92	1	0.420	0.164	0.350	1	2.547	2											
551 11	F5IV		11.78	5	0.335	0.166	0.379	5	2.629	3											
551 12	G8III		10.77	4	0.497	0.293	0.382	4													
551 13	F6III-III		11.54	5	0.282	0.158	0.456	5	2.675	3											
551 14	K		12.06	1	0.657	0.506	0.406	1													
553 01	G4III		10.35	2	0.396	0.179	0.380	2	2.622	1											
553 02	G5		12.14	2	0.429	0.345	0.419	2													
553 03	G6IV		10.68	2	0.595	0.304	0.469	2													
553 04	K3V		10.75	2	0.627	0.540	0.327	2													
553 05	K0III		10.29	2	0.611	0.378	0.495	2													
553 06	G2III		8.44	2	0.386	0.178	0.392	2	2.604	4											
553 07	K2I		9.98	2	0.648	0.498	0.337	2													
553 08	K1III		11.75	2	0.522	0.414	0.238	2													

Table 5 (continued)

Field Star Spectral Type										Field Star Spectral Type									
#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
V										V									
(b-y)										(b-y)									
m ₁										m ₁									
c ₁										c ₁									
n										n									
β										β									
Comments										Comments									
556	11	K0IIII	11.77	2	0.651	0.472	0.413	2		564	16	G	12.20	2	0.516	0.333	0.370	2	
556	12	K0IIII	11.51	2	0.609	0.363	0.380	2		564	17	G5	12.10	2	0.510	0.334	0.608	2	
556	13	G	12.13	2	0.437	0.188	0.587	2		564	18	G	12.45	2	0.460	0.169	0.323	2	
556	14	K0IV	11.28	2	0.434	0.290	0.245	2		564	19	G	12.35	2	0.307	0.220	0.398	2	2.616 2
556	15		13.02	1	0.492	0.106	0.175	1	2.646 1										
556	16	F6IIII	11.16	2	0.294	0.163	0.360	2	2.630 3										
556	17	G	12.39	2	0.443	0.241	0.233	2		566	01	F7IIII	10.90	2	0.316	0.146	0.398	2	2.650: 4
556	18	K8E	11.86	1	0.430	0.286	0.233	1	+19 2527	566	02	G5IIII	12.33	2	0.611	0.184	0.511	2	
556	19		13.95	1	0.439	0.295	0.154	1		566	03	G5IIII	11.08	2	0.372	0.142	0.422	2	
556	20	G	12.55	2	0.317	0.196	0.587	2	2.670: 2	566	04	K4IIII	12.05	2	1.275	-0.807	0.500	2	
556	21	K	13.12	2	0.436	0.216	0.386	2		566	05	K0	12.05	2	0.443	0.141	0.471	2	
556	22	F	12.15	2	0.361	0.232	0.357	2	2.614 3	566	06	G	12.34	2	0.641	0.130	0.470	2	
556	23	G	12.51	2	0.514	0.212	0.488	2		566	07	G0IIII	10.24	2	0.342	0.173	0.328	2	2.646 4 + 8 2640
556	24	F8	12.01	2	0.308	0.145	0.428	2	2.599 3										
556	25	K	13.18	2	0.320	0.154	0.832	2	2.643 1										
556	26	F	12.38	2	0.387	0.117	0.340	2	2.640 3	569	01	K5IIII	11.29	2	0.835	0.533	0.122	2	
556	27	G5IIII	11.64	1	0.510	0.161	0.575	1	2.555 2	569	02	K3IIII	10.22	2	0.852	0.696	0.321	2	+ 2 2581
										569	03	G5IIII	9.80	2	0.431	0.197	0.456	2	+ 1 2757
										569	04	G8IIII	12.23	2	0.397	0.141	0.299	2	2.600 2
										569	05	F9IIII	10.47	2	0.354	0.149	0.269	2	2.594 5
562	01	K5IV	10.79	3	0.588	0.441	0.258	3	+27 2113	569	06	F8IIII	11.61	2	0.355	0.138	0.360	2	2.618 4
562	02	K2IIII	11.49	3	0.591	0.351	0.368	3		569	07	K0II	8.19	2	0.708	0.455	0.357	2	+ 2 2582
562	03	G5	11.68	3	0.766	0.386	0.331	3		569	08	K0II	9.84	2	0.748	0.465	0.362	2	+ 2 2583
562	04	G5IIII	6.42	3	0.580	0.304	0.392	3	+26 2326	569	09	G5IIII	9.44	2	0.571	0.332	0.344	2	
562	05	G9IIII	11.44	3	0.580	0.304	0.392	3		569	10	M0II	11.47	2	0.689	0.539	0.171	2	
562	06	K2IIII	11.63	3	0.522	0.281	0.465	3		569	11	F8IIII	11.41	2	0.312	0.156	0.346	2	2.657 3
562	07	K	12.40	2	0.567	0.317	0.439	2		569	12	F6IIII	10.79	2	0.306	0.119	0.465	2	2.665 5
562	08	K0IV	11.24	2	0.630	0.342	0.390	2		569	13	G6IIII	11.01	2	0.582	0.381	0.410	2	2.679 4
562	09	F8IIII	10.40	3	0.361	0.176	0.308	3	2.639 5	569	14	F5IIII	11.95	2	0.222	0.121	0.765	2	2.597 1
562	10	G0IIII	10.39	3	0.379	0.182	0.276	3	2.599 6	569	15	K0IIII	8.71	2	0.596	0.346	0.454	2	
562	11	G5IV	11.85	3	0.427	0.254	0.298	3		569	16	F8IIII	9.76	2	0.330	0.238	0.340	2	2.648 5
562	12	G4IIII	9.09	2	0.071	0.174	1.079	2	+26 2331	569	17	K7	12.45	2	0.633	0.431	0.256	2	2.590
562	13	G0IIII	10.25	2	0.371	0.171	0.356	2	+26 2334	569	18	G0IIII	11.50	2	0.370	0.257	0.319	2	2.613 4
562	14	G0IV	10.91	2	0.365	0.133	0.319	2											
562	15	G2IV	11.39	2	0.397	0.215	0.344	2	2.609 1										
562	16	G0	12.11	2	0.402	0.164	0.292	2	2.624 1	579	01	G0	12.50	2	0.297	0.196	0.413	2	2.619 2
562	17	G2IV	11.95	2	0.354	0.144	0.544	2		579	02	G0	12.22	1	0.344	0.183	0.342	1	2.608 2
562	18	G0	12.87	3	0.354	0.195	0.448	3	2.621 1	579	03	G5IIII	12.10	2	0.598	0.330	0.490	2	2.681 4
562	19	G0	12.87	3	0.365	0.204	0.117	3	2.671 1	579	04	F5IIII	9.94	2	0.292	0.174	0.413	2	2.681 4
562	20	A6I-II	8.55	3	0.342	0.180	0.348	3	2.642 4	579	05	G0	12.36	2	0.332	0.141	0.342	2	2.504 1
562	21	F6I-II	12.68	3	0.454	0.637	0.715	3	SEE NOTE 13	579	06	G	12.93	2	0.515	0.333	0.447	2	
562	22	G	12.81	2	0.235	0.215	0.428	2	2.655 1	579	07	G	12.48	2	0.541	0.461	0.118	2	
562	23	G5	12.08	3	0.601	0.344	0.430	3		579	08	G5IIII	11.13	2	0.580	0.290	0.312	2	+15 2616
562	24	F5I-II	10.02	2	0.292	0.164	0.439	2	2.701 3	579	09	G2	12.09	2	0.357	0.190	0.331	2	2.646: 2
562	25	G8	12.59	3	0.407	0.151	0.185	3		579	10	F8IIII	9.95	2	0.343	0.152	0.467	2	2.644 4
564	01	G5IIII	11.66	2	0.429	0.355	0.353	2		579	11		12.21	2	0.451	0.214	0.290	2	
564	02	G0	12.13	2	0.391	0.211	0.311	2	2.593 2	579	12	G5IIII	11.70	2	0.554	0.352	0.507	2	
564	03	G8IV	11.86	2	0.453	0.272	0.208	2		579	13	G0IIII	11.59	2	0.356	0.182	0.432	2	2.612: 3
564	04	F9IV	10.89	2	0.341	0.184	0.348	2	2.616 4	579	14	G5IIII	11.77	2	0.631	0.322	0.431	2	
564	05	G	12.68	1	0.405	0.253	0.258	1	- 0 2598	579	15	F8IIII	11.14	2	0.347	0.219	0.335	2	2.640 3
564	06	G	12.50	2	0.479	0.414	0.311	2		579	16	G2	11.95	2	0.411	0.194	0.306	2	
564	07	G	12.38	2	0.467	0.272	0.313	2		579	17	G5IIII	11.14	2	0.464	0.141	0.434	2	
564	08	K	12.86	2	0.649	0.306	0.562	2		579	18	G5	10.99	2	0.418	0.269	0.378	2	+15 2623
564	09	G6	11.95	2	0.419	0.280	0.207	2		579	19	G-K	11.30	2	0.390	0.210	0.452	2	
564	10	K	12.05	2	0.605	0.527	0.162	2		579	20	G3IIII	9.88	2	0.412	0.196	0.342	2	+15 2424
564	11	K	12.75	2	0.567	0.419	0.353	2		579	21	G	12.78	2	0.435	0.255	0.287	2	
564	12	K2IIII	11.37	2	0.682	0.517	0.345	2		579	22	F8IIII	9.87	2	0.332	0.127	0.399	2	2.633 5
564	13	G	12.52	2	0.343	0.139	0.415	2	2.632 2	579	23	K	12.49	2	0.386	0.145	0.357	2	
564	14	G	12.75	2	0.384	0.337	0.179	2	2.595 2	579	24	G5	12.37	2	0.639	-0.036	0.607	2	
564	15	K	12.18	2	0.794	0.618	0.161	2		579	25	G	12.55	2	0.600	0.273	0.401	2	

Table 5 (continued)

Field #	Star #	Spectral Type	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
580	01	G5III	11.02	2	0.421	0.207	0.250	2	2.567	2	+ 7 2687
	02	G2	11.83	2	0.396	0.221	0.372	2	2.567	2	
	03	G	12.36	2	0.609	0.259	0.259	2	2.657	4	
	04	F5III	11.35	2	0.311	0.174	0.359	2	2.657	4	
	05	G	12.31	2	0.349	0.214	0.295	2	2.608	3	
	06	G0	12.03	2	0.575	0.295	0.303	2			
	07	G9III	10.63	2	0.596	0.356	0.479	2			+ 7 2688
	08	G8	11.94	2	0.584	0.312	0.455	2			
	09	F2	11.98	2	0.276	0.128	0.455	2	2.642	4	
	10		12.58	2	0.414	0.243	0.288	2			
590	11	G5III	9.23	2	0.405	0.243	0.321	2			+ 6 2792
	12	K0	11.91	2	0.482	0.376	0.376	2			
	13	G0	12.05	2	0.356	0.167	0.384	2	2.623	2	
	14	G5	12.10	2	0.380	0.226	0.310	2	2.586	3	
	15	K	13.43	2	0.587	0.294	0.115	2			
	16	G	12.31	2	0.444	0.468	0.125	2			
	17	M0V	9.99	2	0.736	0.612	0.170	2			
	18	K	11.72	2	0.806	0.614	0.142	2			
	19	G5	11.98	2	0.417	0.194	0.290	2			
	20	M0	11.68	2	0.951	0.720	0.206	2			
590	21	G0	12.37	2	0.313	0.169	0.319	2	2.605	3	
	22	F9III	11.42	2	0.337	0.146	0.434	2	2.615	4	
	23	G	12.40	2	0.402	0.168	0.250	2			
	24	K2III	10.09	2	0.814	0.575	0.386	2			+ 7 2696
	01	K1	11.41	2	0.606	0.428	0.448	2			
	02	G0	11.90	4	0.349	0.126	0.302	4	2.602	3	
	03	G0	12.41	1	0.353	0.188	0.335	1	2.637	1	
	04	K0	11.52	2	0.429	0.260	0.310	2			
	05	G0	10.81	3	0.361	0.135	0.322	3	2.619	4	+31 2625
	06	F8	10.97	3	0.319	0.129	0.355	3	2.637	4	+30 2531
590	07	K5IV	10.50	3	0.548	0.421	0.270	3	2.693	3	+30 2532
	08	F3IV	9.90	3	0.265	0.173	0.533	3			+31 2659
	09	G	12.69	1	0.574	0.391	0.302	1			
	10	G	10.94	3	0.436	0.232	0.246	3			
	11	M	11.36	2	0.897	0.601	0.370	2			
	01	K	12.31	2	0.527	0.298	0.543	2			
	02	G0	12.39	2	0.411	0.108	0.262	2			
	03	G5	12.27	2	0.471	0.157	0.556	2			
	04	G0III	9.27	2	0.347	0.157	0.425	2	2.631	3	+30 2534
	05	K2I-II	8.95	2	0.666	0.607	0.392	2			+30 2535
592	06	G	12.34	2	0.522	0.176	0.335	2			
	07	G0	11.89	2	0.414	0.191	0.328	2			
	08	F9III	12.12	2	0.421	0.314	0.342	2	2.602	2	
	09	F9III	10.51	2	0.379	0.112	0.360	2	2.630	3	
	10	G3	11.44	2	0.379	0.180	0.356	2	2.594	3	
	11	K1	12.25	2	0.540	0.443	0.116	2			
	12	K1	11.89	2	0.428	0.279	0.279	2	2.618	3	
	13	K2	12.41	1	0.501	0.460	0.295	1			
	14	G0	12.73	2	0.421	0.213	0.344	2			
	15	G0									
763	01	G0:	12.6	0	0.479	0.185	0.432	2	2.563	1	
	02	G0	8.84	2	0.383	0.210	0.349	4	2.615	2	-16 6170
	03	G2	11.5	0	0.512	0.194	0.407	2			
	04	F8	12.0	0	0.425	0.153	0.409	2	2.553	1	
	05	G5	9.4	0	0.608	0.337	0.420	2			-16 6171
	06	G2	11.94	0	0.484	0.260	0.411	2			
	07	G1	12.2	0	0.484	0.260	0.411	2			
	08	K5	11.5	0	0.701	0.549	0.390	2			-16 6175
	09	K0	11.73	1	0.422	0.244	0.339	2			-16 6177
	10	G8	8.76	1	0.549	0.310	0.370	4			
763	11	G5	11.2	0	0.494	0.234	0.411	2			
	12	F8:	12.0	0	0.385	0.128	0.456	2	2.637	1	
	13	G2	11.4	0	0.361	0.124	0.440	2	2.690	1	
	14	G8	9.13	1	0.605	0.377	0.413	3			-16 6178
	15	G2	12.1	0	0.575	0.197	0.411	2	2.569	1	
	16	K5	9.8	0	0.900	0.689	0.498	2			-16 6179
	17	G2:	12.0	0	0.411	0.127	0.422	2	2.477	1	
	18	G0	10.99	1	0.365	0.177	0.459	3	2.671	1	-16 6180
	19	K0	12.1	0	0.440	0.154	0.490	2			
	20	G2	11.5	0	0.606	0.445	0.263	2	2.559	1	
763	21	G0	11.8	0	0.558	0.242	0.388	2	2.533	1	
	22	G5	11.92	1	0.594	0.390	0.379	3	2.593	1	
	01	F5	7.56	4	0.345	0.164	0.327	4	2.594	3	- 9 6149
	02	G2	8.20	3	0.411	0.213	0.270	3	2.607	3	- 9 6152
	03	G5	9.04	4	0.390	0.219	0.366	4	2.611	3	
	04	K0	12.06	3	0.494	0.294	0.309	3			
	05	K0	12.17	3	0.514	0.242	0.434	3			
	06	K2:	12.41	3	0.741	0.402	0.616	3	2.578	1	
	07	G2	12.18	2	0.536	0.057	0.513	2	2.625	2	
	08	F8	12.08	3	0.376	0.136	0.228	3	2.545	3	
769	09	F8	12.29	3	0.416	0.068	0.389	2	2.626	2	
	10	G5	12.93	2	0.492	0.364	0.353	3			
	11	F5	11.00	3	0.349	0.176	0.391	3	2.675	3	
	12	G8	12.26	4	0.546	0.270	0.441	2	2.448	1	
	13	F5	11.70	4	0.346	0.178	0.346	3	2.659	4	
	14	K0	12.27	3	0.567	0.302	0.483	3			
	15	K5	11.60	4	0.600	0.454	0.269	4			
	16	G8	11.10	3	0.427	0.178	0.331	3			
	17	G2	10.38	3	0.370	0.165	0.346	3	2.590	3	- 9 6157
	18	F	12.75	2	0.388	0.186	0.432	2	2.740	2	
770	19	G5	11.15	3	0.401	0.166	0.395	3			
	01	F8	11.34	5	0.345	0.169	0.409	5	2.662	5	SEE NOTE 14
	02	K0	8.71	2	0.714	0.568	0.442	2			-14 6440
	03	K0	6.56	3	0.772	0.550	0.309	3			SEE NOTE 15
	04	F5	11.36	4	0.337	0.134	0.393	4	2.633	4	-14 6444
	05	G5	10.30	3	0.403	0.225	0.410	3	2.605	3	SEE NOTE 16
	06	G0	11.27	5	0.358	0.168	0.318	5	2.558	5	SEE NOTE 17
	07	M0	11.90	3	0.644	0.575	0.493	3			
	08	F8	11.67	3	0.332	0.120	0.399	3	2.698	3	
	09	K5	10.58	3	0.315	0.116	0.389	3	2.524	3	-14 6449
770	10	G2	11.50	4	0.532	0.314	0.352	4	2.574	4	
	11	G5	12.20	3	0.586	0.244	0.538	3	2.575	3	-14 6451
	12	G8	11.45	3	0.636	0.350	0.370	3	2.550	1	-14 6453
	13	M0	7.13	3	0.969	0.712	0.412	3			-14 6455
	14	F5	8.66	3	0.299	0.170	0.494	3	2.678	3	
	01	G6	9.82	3	0.603	0.416	0.378	3	2.565	3	-17 6739
	02	F8	10.93	3	0.322	0.174	0.483	3	2.664	3	-17 6740
	03	G5	9.79	3	0.440	0.309	0.404	3	2.606	3	-17 6741
	04	G0	10.98	3	0.369	0.133	0.438	3	2.671	3	
	05	G5	11.43	4	0.463	0.195	0.322	4	2.615	4	

Table 5 (*continued*)

Field #	Star #	Spectral Type	V	n	(b-y)	m ₁	c ₁	n	β	n	Comments
773	06	K0	10.53	3	0.651	0.392	0.478	3	2.573	3	-18 6293
773	07	G0	10.15	3	0.381	0.157	0.219	3	2.571	3	-18 6294
773	08	G0	11.11	3	0.157	0.384	0.384	4	2.586	4	-18 6296
773	09	F5	10.11	3	0.229	0.249	0.366	4	2.615	3	-17 6747
773	10	F5	11.47	4	0.343	0.190	0.366	4	2.578	4	
773	11	F8	11.49	4	0.362	0.133	0.388	4	2.550	4	
773	12	G2	11.23	4	0.412	0.187	0.320	4	2.570	4	-18 6303
773	13		10.19	3	0.322	0.185	0.424	3	2.664	3	-18 6306
773	14		10.55	3	0.307	0.182	0.438	3	2.683	2	
780	01	K0	11.81	3	0.527	0.329	0.301	3	2.555	3	
780	02	G0	11.57	2	0.236	0.148	0.628	2	2.503	2	-21 6502
780	03	G0	11.94	2	0.236	0.148	0.628	2	2.503	2	-21 6505
780	04	F2	9.87	2	0.601	0.402	0.396	2	2.707	3	-21 6506
780	05	F2	9.65	2	0.227	0.166	0.557	2	2.692	3	-20 6681
780	06	G0	10.78	2	0.393	0.226	0.448	2	2.602	3	-20 6683
780	07	K0	9.52	2	0.532	0.292	0.391	2	2.521	1	-20 6687
780	08	G0	11.35	2	0.398	0.194	0.259	2	2.573	3	
780	09	G2	11.74	3	0.509	0.224	0.351	3	2.872	3	-21 6514
780	10	A0	9.87	2	0.060	0.227	0.998	2	2.872	3	-21 6515
780	11	K0	11.88	3	0.524	0.351	0.299	3	2.511	3	

NOTES

1. BD -13° 57. Variable?
2. BD +1° 81, ADS 529. Measured together with 5-06.
3. ADS 529. Double with 5-05, measured separately.
4. ADS 549. Measured together with 5-10.
5. Close double, measured together.
6. BD +2° 85, ADS 554. Measured together with 5-17.
7. BD -16° 292, ADS 1356. Measured together with 23-07.
8. 26-04 and 371-03 are identical.
9. Variable?
10. Double star, measured separately.
11. BD +28° 2195. Close double, measured together.
12. ADS 8827. Double with 168-17. Now appears singular.
13. Possible contamination by near-by bright star.
14. BD -14° 6439. 332-16 and 770-01 are identical.
15. BD -14° 6441. 332-17 and 770-03 are identical.
16. BD -14° 6445. 332-20 and 770-05 are identical.
17. 332-21 and 770-06 are identical.
18. Close double, measured together.
19. Double star, measured separately. Together, $V = 11.97$ mag.
20. BD +15° 2619. Double star, measured separately.

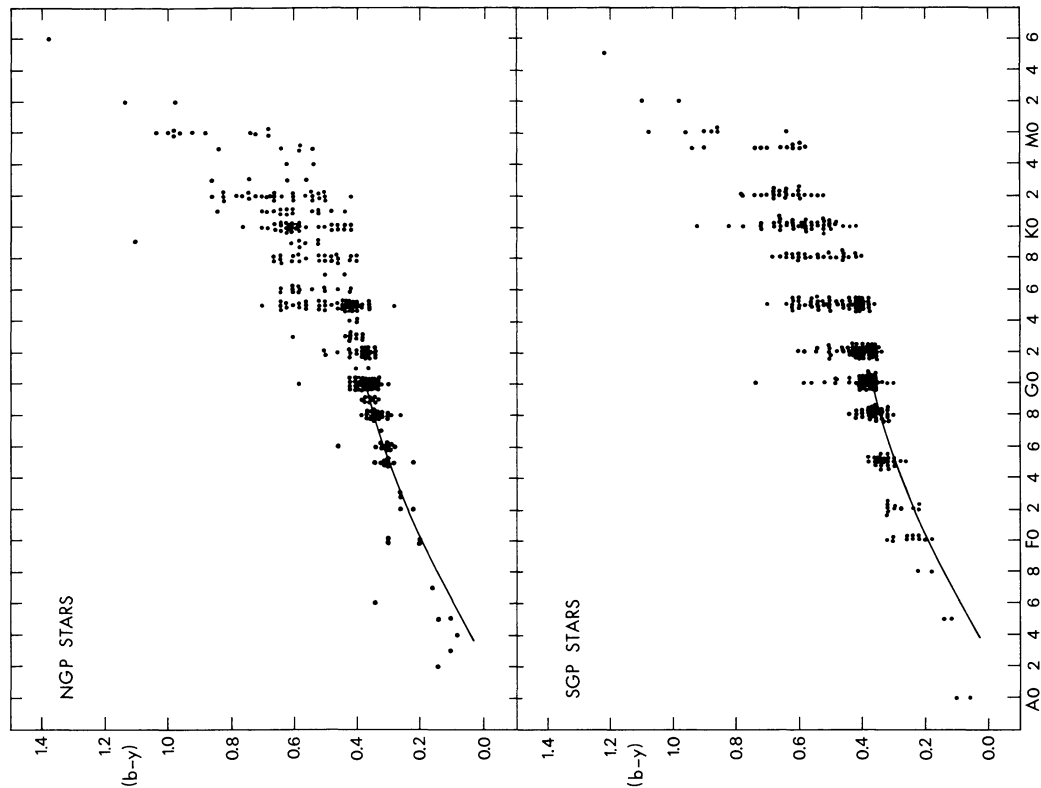


Figure 3 Spectral type versus (b-y). The NGP spectral types were made from plates taken at Abastumani Astrophysical Observatory and the SGP types were made from GPO plates taken at La Silla. The solid line is the Hyades relation for A and F stars.

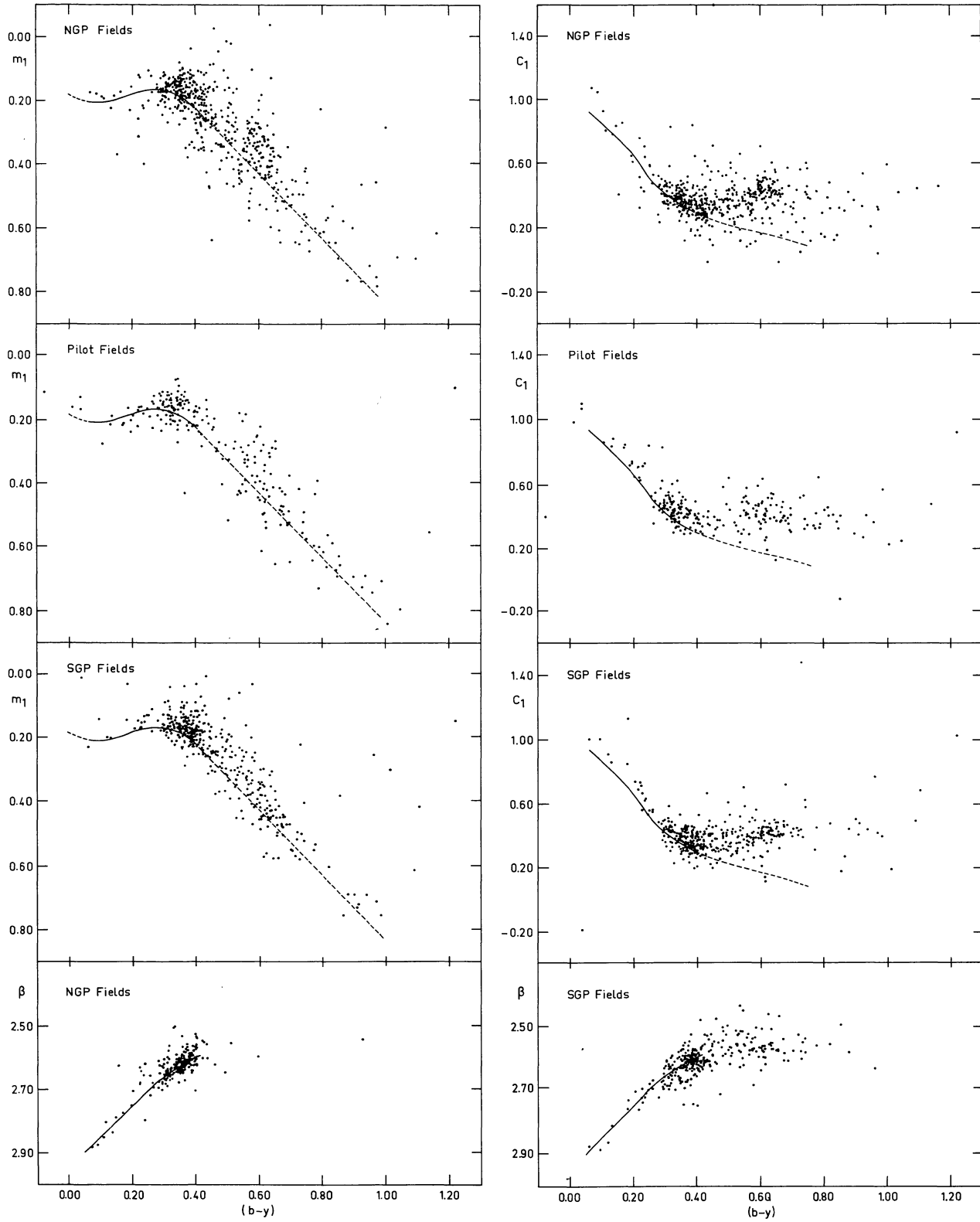


Figure 4 m_1 , c_1 and β plotted against $(b-y)$. The solid line represents the Hyades relation for A and F stars and the dashed line is the extrapolation of this relation following the suggestion of Bond (1970). The higher scatter in the NGP diagrams for m_1 and c_1 is due entirely to the stars fainter than 11.5 mag. observed in 1970a.