

THE RADIAL VELOCITIES OF 600 STARS AND MEASURES OF 69 SPECTROSCOPIC BINARIES*

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ABSTRACT

The radial velocities of 600 stars observed with the 60- and 100-inch reflectors are given. This list is in no way homogeneous and contains stars from several observing lists made up for various investigations.

In addition, measures are given for 69 variable-velocity stars, some of which have been observed elsewhere.

The radial velocities of the stars contained in the following tables have been derived from a rather heterogeneous mass of material, for they are, in part, the result of an effort to clean up a number of stars left over from earlier observing-lists. It invariably happens that some stars from such a list are not included in a publication because of lack of sufficient observations or because of the poor quality of the plates or spectra. In most of these cases we have obtained additional observations, with the result that the velocities may now be published with some confidence.

A large number of measures by other members of the staff were available to us. In fact, nearly all those engaged in spectroscopic work are here represented, as are practically all the various combinations of spectrographs and cameras that have been used since observations were first commenced at Mount Wilson, with the exception of the coudé and nebular spectrographs. But since the writers have been more or less responsible for the completion of these velocities, it has fallen to their lot to be responsible also for their publication.

In order to make the results as homogeneous as possible, it was necessary for us to weight the measures according to the quality and the dispersion of the individual plates. This was done after all measuring had been completed, thus making the system of weights consistent throughout.

* *Contributions from the Mount Wilson Observatory, Carnegie Institution of Washington*, No. 593.

The several columns in the accompanying tables need but little explanation. Unless indicated otherwise, the designation in the second column is that of Boss's *Preliminary General Catalogue*. *Bonner Durchmusterung* stars are given with the initials omitted. In the "HD" column we have included designations which may prove helpful to those interested. In Table 1, stars which were included in the Selected Area lists are designated by an asterisk; those which were selected because of large proper motion, by a dagger; stars whose velocity may be variable are indicated by a double dagger. The familiar formula,

$$\text{P.E.} = 0.6745 \sqrt{\frac{\Sigma pvv}{n(n-1)}}$$

has been used in computing the probable errors given in the eighth column.

TABLE 1
THE RADIAL VELOCITIES OF 600 STARS

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
315.....	Boss 7	$0^h 2^m 6$	$-3^\circ 06'$	6.3	Aon	+ 13.2	1.7	5
448.....	13	0 3.9	+17 39	5.7	G9	- 23.9	1.2	3
545.....	17	0 4.8	- 3 07	7.2	M2	+ 18.5	1.2	4
587.....	20	0 5.2	- 5 48	6.0	G9	+ 24.3	0.6	3
919*.....	+75°4	0 8.5	+75 28	7.6	M4	- 0.2	0.4	5
947*.....	+75°5	0 8.8	+75 28	7.9	G4	- 16.4	1.4	3
1061B.....	35B	0 9.8	+08 16	7.8	A9s	+ 8.3	0.8	3
1195*.....	-15°38	0 11.2	-15 02	8.6	F5	+ 22.0	1.9	3
1227.....	39	0 11.4	+07 41	6.2	G6	+ 0.8	0.6	5
1317B.....	45B	0 12.3	+ 8 19	8.0	A9s	+ 39.3	0.8	3
1352*.....	48	0 12.6	+15 47	7.4	F5	+ 7.4	1.1	6
1367.....	49	0 12.7	+ 1 08	6.4	G6	- 9.5	0.7	3
1563*.....	54	0 14.8	+15 42	6.8	G8	+ 21.3	0.1	3
2023.....	69	0 19.4	- 2 46	6.3	K1	+ 14.4	1.1	3
2035.....	70	0 19.5	+13 46	6.8	Ko	- 15.3	1.8	4
2114.....	73A	0 20.3	+ 1 23	6.0	G5	- 5.3	0.2	3
2273.....	79	0 21.5	- 0 36	6.4	G4	- 23.2	1.6	3
2313*.....	+30°59	0 21.9	+30 37	7.6	M1	+ 30.5	0.1	3
2410.....	80	0 22.8	+18 58	6.7	G7	+ 10.7	1.7	4
3512.....	129A	0 33.0	- 1 03	6.9	K3	- 55.3	1.5	4
3989*.....	+45°181	0 37.4	+45 21	7.4	Mo	- 18.7	0.9	4
4301.....	156	0 40.3	- 5 11	6.4	Mo	+ 7.5	1.2	3
4406*.....	+45°199	0 41.3	+45 49	7.6	G3	+ 0.2	1.6	3
4482.....	162	0 41.8	+11 26	5.7	G9	- 0.3	1.0	3
4928.....	188	0 46.2	+ 2 51	6.5	G7	+ 6.8	0.2	3
5008.....	190A	0 47.8	-24 33	5.9	K2	+ 39.5	0.4	3
5268†.....	194	0 49.2	-09 17	6.4	G3	+ 44.2	2.4	3
5437.....	202	0 51.0	-11 48	5.5	K5	- 29.1	0.9	3
5722.....	211	0 53.7	-11 55	5.8	G7	- 18.1	1.2	3
5747*.....	+59°161	0 54.0	+59 59	7.2	G8	+ 16.7	1.3	3
5780.....	215A	0 54.3	+ 0 15	7.8	Mo	-103.0	1.1	5
5802†.....	+13°143	0 54.5	+14 04	9.0	Fo	+ 6.8	0.9	3
6130*.....	ADS 868A	0 57.4	+60 32	5.9	A9s	- 1.8	1.6	3
6203.....	228	0 58.0	- 5 22	5.7	K1	+ 15.8	0.4	3
6319.....	232	0 59.1	+86 37	6.4	K2	- 4.8	0.7	4
6482.....	237	1 0.6	-10 31	6.4	G8	+ 12.8	1.2	3
6473.....	239	1 0.7	+79 29	6.4	G6	- 27.5	1.3	4
6476.....	241A	1 0.7	+31 39	6.6	K2	+ 28.2	1.7	5
6680.....	248	1 2.5	+31 29	6.3	A7n	+ 17.6	1.7	5
6706.....	250	1 2.7	-10 19	5.9	F3	+ 21.4	1.1	3

* Selected Area star.

† Proper-motion star.

‡ Velocity may be variable.

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TABLE 1—Continued

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
7010*	+59°190	1 ^h 5 ^m 4	+59°58'	7.9	Ko	+ 12.6	1.7	3
7147	273	1 6.6	- 2 47	6.2	K4	- 8.4	0.4	3
7238	276	1 7.7	+79 23	6.4	F5	- 43.1	1.0	3
7268	278	1 7.8	-07 19	6.9	G8	- 10.9	1.7	3
7439	285A	1 9.4	- 8 28	5.2	F2	+ 19.6	1.5	3
8036	302A	1 14.7	- 1 02	6.0	G3	+ 17.6	0.2	3
8110*	+14°204	1 15.4	+15 11	7.5	G6	+ 8.1	2.1	3
8248*	+15°198	1 16.7	+15 17	7.5	F4	+ 3.0	0.9	3
8829	322	1 21.9	-13 35	5.7	F1	+ 9.9	0.4	3
8875	324AB	1 22.5	+ 4 50	7.9	Go	- 15.1	1.1	3
8941	326	1 23.1	+16 34	6.8	F8	+ 8.5	0.2	3
9024	328	1 23.8	+ 6 47	6.7	Fo	- 8.9	2.3	5
9856	351	1 31.1	-15 55	5.5	K1	+ 25.2	1.3	3
9919	356	1 31.8	+11 38	5.6	A5n	+ 3.0	2.8	4
10072	360	1 33.3	+43 53	5.5	G5	+ 9.1	0.8	3
10086*	+45°404	1 33.5	+45 23	6.7	G4	+ 4.8	1.1	3
10135	362	1 33.9	+13 47	6.9	Ko	- 2.4	0.6	3
10204	368	1 34.7	+42 48	5.5	A9n	+ 24.9	1.4	3
10453B	381B	1 36.8	-11 49	7.4	F3	- 21.9	0.1	3
10486*	+44°354	1 37.2	+44 48	6.5	K2	+ 12.7	0.9	3
10597*	+45°432	1 38.3	+45 39	6.5	K5	- 17.4	0.8	3
10824	397	1 41.0	- 6 14	5.5	K4	+ 11.3	0.9	3
10975	402	1 42.7	+37 27	6.0	G7	+ 37.2	0.6	3
10995	404	1 42.9	+16 31	7.3	Go	+ 12.0	2.3	4
11131	408	1 44.5	-11 12	6.8	G1	- 3.0	2.0	6
11949	439	1 52.2	+48 43	5.8	G7	- 1.1	1.0	3
12641	473A	1 58.7	- 0 49	6.0	G5	+ 24.4	0.8	3
13228	485	2 04.1	- 2 48	7.1	F5	- 11.9	0.7	3
13555	501	2 07.2	+20 44	5.4	F4	+ 7.9	1.1	3
14044†	516A	2 11.3	-10 17	7.5	G2	+ 31.0	2.7	5
14691	541	2 17.1	-11 14	5.6	A8n	+ 11.2	2.6	4
14770	542	2 17.8	+49 33	5.5	G5	- 12.2	1.1	3
15257	559	2 22.3	+29 13	5.4	A7n	- 24.8	1.3	3
15550	566	2 25.0	+19 25	6.1	A4n	+ 23.5	2.7	5
15634	569	2 25.7	-25 38	6.5	A9n	+ 24.5	1.3	3
15788*†	+29°434	2 27.2	+29 31	7.8	G7	+ 11.8	2.4	3
15814	576	2 27.4	+14 36	6.4	F7	- 3.3	0.2	3
16042*	+30°414	2 29.5	+30 14	8.5	G4	- 14.7	1.6	3
16397*	+30°421	2 32.6	+30 24	7.2	Go	-100.8	0.9	4
16446	598	2 33.2	-23 26	6.9	G9	+ 24.8	1.3	3
16505	600	2 33.8	+67 38	7.8	K3	- 69.4	1.4	3
16784†	C 345	2 36.3	-30 34	8.1	F9	+ 33.9	2.2	3
17017	624	2 38.7	+17 20	6.5	K2	- 30.8	0.8	3
18145*	-0°450	2 49.7	- 0 28	6.7	G6	+ 6.4	1.8	3
18200	+51°657	2 50.3	+52 06	8.0	G6	- 40.5	1.0	3

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
18262.....	662	2 ^h 50 ^m 9	+ 7° 59'	6.1	F7	+ 28.8	1.2	5
18535.....	676	2 53.6	-24 00	6.0	K2	+ 7.9	0.5	4
18766*.....	+59°588	2 56.0	+59 55	7.2	F4	- 50.9	2.2	3
19270†.....	704	3 00.9	+12 48	5.8	K0	- 16.0	1.7	3
19305†.....	+1°543	3 01.2	+ 1 36	8.9	Mo	- 21.4	1.4	4
19968*.....	+60°651	3 07.5	+60 45	8.0	B5s	- 7.1	4.3	3
20084.....	726	3 08.6	+84 33	6.1	G4	+ 31.9	0.9	3
20290.....	736	3 10.7	- 9 08	6.8	K2	+ 15.0	0.2	3
20395.....	743	3 11.7	- 9 31	6.2	F4	- 5.8	0.8	3
20512*.....	+14°550	3 12.9	+14 49	7.7	G4	+ 10.4	0.6	3
20610.....	750A	3 13.9	-22 53	5.0	G6	+ 21.8	1.2	4
20618.....	751	3 14.0	+26 43	5.9	G5	- 0.5	1.9	3
20709.....	760	3 15.1	+72 51	7.3	K2	- 19.7	1.8	4
20791.....	763	3 15.9	+ 3 19	5.8	G8	+ 11.7	1.5	4
21467†.....	792A	3 22.6	+22 28	6.1	G6	+ 44.2	2.3	4
21530.....	794	3 23.2	-11 38	5.8	K2	- 1.3	1.3	6
21834*.....	+29°571	3 26.1	+29 39	8.0	A5n	+ 2.5	2.3	3
22409.....	822	3 31.2	-11 32	5.7	G7	+ 37.0	1.9	4
22701.....	830	3 33.9	+86 20	5.8	F1	- 4.7	1.2	3
22796.....	835	3 34.6	+ 2 44	5.8	G6	+ 21.2	1.0	3
23082*.....	+44°782	3 37.2	+44 34	7.8	cK5	+ 8.2	1.4	4
24546.....	900A	3 49.2	+50 24	6.0	F4	+ 25.3	0.7	3
24740.....	908	3 51.0	+22 11	5.8	F3	+ 28.6	0.2	3
25102.....	+9°524	3 54.2	+10 02	6.4	F3	+ 39.8	2.0	3
25165.....	916	3 54.8	-12.51	5.9	K5	- 4.6	0.9	3
25230.....	921	3 55.3	+19 55	6.8	G4	+ 20.7	0.9	4
25723.....	942	3 59.7	-13 04	5.7	K0	+ 32.4	2.0	3
25867.....	944	4 00.8	+28 44	5.3	F1	+ 7.6	1.5	3
26380*.....	+15°592	4 05.2	+15 41	7.2	Aon	+ 10.5	0.5	3
26659.....	968	4 08.0	+83 06	5.7	G4	- 38.2	0.3	3
26755.....	973	4 08.8	+57 37	5.8	K2	- 40.9	0.5	3
27497.....	1008	4 15.4	+05 54	5.9	G6	+ 7.4	1.2	6
27518.....	1009	4 15.5	-25 16	6.9	K5	- 28.8	1.2	3
27524.....	+20°740	4 15.6	+20 49	6.9	F2	+ 36.6	0.4	3
27971.....	1030	4 19.7	+31 13	5.3	G6	+ 26.7	2.2	3
28139.....	1037A	4 21.2	+18 54	7.7	F5	+ 40.8	2.0	3
28446B.....	1050B	4 24.1	+53 42		B3s	+ 4.2	2.6	4
28556.....	1056	4 25.0	+13 30	5.5	F1	+ 37.9	1.3	3
28693†.....	1060	4 26.3	+42 49	6.8	A8s	+ 0.8	2.3	5
29038††.....	C 593	4 29.2	+16 47	7.7	K4	+ 43.4	2.0	6
29737†.....	1104	4 36.0	-24 41	5.9	G6	- 14.1	1.8	4
29859.....	1109	4 37.2	+23 54	6.2	F6	+ 5.8	0.8	6
30557.....	1134	4 43.6	+48 34	5.8	K0	+ 29.5	1.0	3
30606.....	1137	4 44.0	-16 30	6.0	F6	+ 34.9	0.6	3
30604†.....	C 618	4 44.1	+70 28	8.6	G1	+ 44.6	2.5	3

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TABLE 1—Continued

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
30812*	-0°785	4 ^h 45 ^m 7	-00°16'	7.4	Ko	- 8.3	1.1	3
31296	1162	4 49.4	+ 7 37	5.5	K1	- 4.5	0.4	3
31444	1170	4 50.8	-16 35	5.8	G4	+ 31.8	1.9	3
31539	1174	4 51.6	+17 00	5.7	K1	+ 25.3	1.4	3
31647	1178B	4 52.5	+37 44	8.9	F9	+ 6.4	0.4	5
32008	1188	4 55.1	-10 25	5.7	G4	- 12.6	2.5	5
32503	1200	4 58.5	-22 56	5.8	K1	+ 33.0	0.6	3
34255	1255	5 11.0	+62 33	5.9	cK4	- 5.3	1.2	4
34531	1264	5 13.1	+78 13	6.8	F4	+ 15.0	1.3	6
34538	1263	5 13.1	-13 38	5.7	G9	+ 75.8	0.4	3
35067	1286	5 16.8	+ 3 28	7.7	M1	+ 51.4	0.8	3
35601*	+29°897	5 20.8	+29 50	8.0	Mo	- 0.7	1.1	3
35850	1319	5 22.4	-11 59	6.4	F7	+ 18.3	1.2	3
35984*	+29°909	5 23.4	+29 07	6.2	F2	+ 11.0	2.2	4
36044*	+29°911	5 23.8	+29 29	7.2	G6	+ 47.2	1.0	3
36719	1350	5 28.7	+47 39	6.0	Fo	+ 13.1	1.7	3
36947	+43°1315	5 30.1	+44 01	7.4	Go	- 18.7	1.7	5
37981	1406	5 37.3	+14 08	6.9	K1	+ 63.2	1.7	4
38182	1415A	5 38.8	+15 01	7.5	Go	+ 46.0	0.8	3
39099	1450	5 45.2	+14 01	6.8	Ko	- 47.1	0.8	3
41074	1506	5 57.9	+42 59	5.9	A8n	+ 33.6	1.6	3
41927	1530	6 02.8	+65 44	5.4	K2	+ 3.8	0.9	5
42341	1540	6 05.0	-14 34	5.7	K2	+ 31.6	0.7	3
42633	1552	6 06.7	+60 02	5.6	K4	+ 10.4	1.2	3
43624	1583	6 12.1	+27 15	6.7	Ko	- 53.4	1.4	3
44033*	1596	6 14.4	+14 42	6.0	Mo	+ 35.0	0.5	4
44974	1615	6 19.7	+21 42	6.6	G6	- 23.1	0.5	3
45352	1623A	6 21.8	+20 51	6.6	K2	- 29.6	1.9	4
45433	1630	6 22.1	- 0 13	5.8	K5	+ 39.3	1.3	3
45784*	+29°1248	6 24.4	+29 53	8.1	F2	+ 34.3	1.0	3
47174	1694	6 32.2	+42 35	5.1	K2	+ 16.8	0.4	3
47977	1712A	6 36.0	+59 33	8.3	F4	- 40.6	0.2	3
48410*	+44°1528	6 38.2	+44 20	7.8	Go	+ 4.6	0.2	3
48766	1727A	6 39.9	+55 49	6.3	F4	+ 8.8	2.0	3
48781	1728	6 40.0	+48 54	5.3	Ko	+ 0.9	1.3	3
49380	1745	6 43.2	+32 43	5.8	K4	- 15.5	1.0	3
51440	1794	6 52.2	+38 11	6.2	Ko	+ 27.1	1.4	5
51530	1796	6 52.6	+26 13	6.1	F4	+ 3.8	0.4	3
53633	1824	7 0.7	+60 57	6.7	K1	+ 1.8	0.6	3
54079	1832	7 2.4	+ 7 38	5.9	Ko	+ 24.4	0.8	4
54099*	+59°1053	7 2.5	+59 13	7.6	G7	+ 12.3	1.5	3
54131	1835A	7 2.6	+16 05	5.6	G8	- 15.2	1.6	3
56243*	1881	7 11.2	+59 26	6.9	K5	+ 8.6	1.6	5
56578	1888	7 12.4	-23 08	7.0	Fo	+ 36.4	0.9	4
57044	1900A	7 14.5	+73 16	7.1	A7n	- 33.1	1.8	3

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
57478.....	1915	7 ^h 16 ^m 4	-14° 10'	5.7	G5	+ 13.7	0.3	3
58746*.....	+29°1535	7 21.9	+29 37	7.4	A8n	+ 13.4	0.3	3
60294.....	1980	7 28.6	+55 59	6.0	K2	+ 2.2	1.2	7
60341.....	1982	7 28.9	-19 12	5.8	K3	+ 16.9	1.6	5
60584†.....	1989	7 30.1	-23 15	5.9	F4	- 5.7	2.4	3
60585.....	1990	7 30.1	-23 15	6.0	F5	- 6.6	1.5	3
60986.....	1997A	7 32.0	+35 16	5.6	G5	- 35.0	1.8	3
65158*.....	-0°1864	7 52.3	- 0 21	7.0	A2s	+ 31.9	1.1	3
65301.....	2101	7 53.0	+59 19	5.8	F2	- 40.3	0.8	4
67402.....	2149A	8 2.7	+27 46	6.8	G9	+ 14.4	1.5	3
67483.....	2152	8 3.1	+13 56	6.3	F5	- 14.1	1.9	3
67690.....	2156	8 4.2	+26 08	6.7	K3	+ 5.7	0.7	4
68771.....	2182	8 8.7	+59 30	6.7	K2	- 28.4	1.4	3
69054*.....	+75°334	8 10.1	+75 08	6.5	K1	- 31.2	2.0	3
69994.....	2205	8 14.5	+21 04	5.9	K1	- 12.7	1.1	3
70523.....	2215	8 17.4	-17 16	5.8	K0	+ 68.2	0.9	3
70673.....	2221	8 18.1	-12 44	6.3	G7	- 16.0	0.5	3
71152.....	2238A	8 20.7	+24 52	7.1	F1	+ 13.2	0.9	3
71704.....	2256	8 23.7	+67 38	7.8	G7	+ 6.2	0.7	3
72041.....	2263	8 25.6	+24 25	5.7	A9n	+ 18.2	2.1	4
72146*.....	+29°1772	8 26.2	+29 39	7.1	G6	+ 2.6	1.1	3
72673.....	2279	8 29.0	-31 11	6.4	G8	+ 18.5	1.3	4
72905.....	2284	8 30.3	+65 22	5.7	G0	- 14.1	1.5	3
72946.....	2286B	8 30.5	+ 6 58	7.2	G5	+ 27.2	1.1	4
72968.....	2287	8 30.6	- 7 38	5.6	A4sp	+ 24.0	0.3	3
73508.....	2304	8 33.7	+33 05	6.9	K0	+ 14.1	0.9	3
73593.....	2306	8 34.1	+46 11	5.5	G6	- 38.1	0.9	3
74576†.....	C 1026	8 39.6	-38 32	6.6	K5	+ 18.9	2.7	5
74688.....	2346A	8 40.3	- 2 14	6.7	F5	- 18.7	0.9	5
74794.....	2351	8 41.0	- 1 41	5.8	K0	+ 10.7	1.2	3
75117*.....	+45°1641	8 43.0	+45 20	7.6	F4	+ 19.6	1.4	3
75628.....	2369	8 45.5	+15 43	6.3	G2	+ 44.7	0.2	3
76291.....	2392	8 50.1	+46 01	5.9	K2	+ 56.1	0.2	3
76572.....	2401	8 51.9	+30 37	6.2	F3	+ 7.8	0.8	4
76813.....	2409A	8 53.4	+32 48	5.6	G9	+ 23.8	0.6	3
77570.....	2430	8 58.3	+51 13	6.7	F4	+ 13.1	0.8	3
77818*.....	+59°1218	8 59.7	+59 17	7.6	K0	- 38.6	0.5	3
78249*.....	+59°1221	9 2.1	+59 32	7.2	K2	+ 47.0	1.4	3
78391.....	ADS 7198A	9 3.9	- 6 44	8.4	F9	- 3.1	1.2	3
78479.....	2448	9 3.4	+17 52	7.4	K4	+ 77.0	1.9	3
79181.....	2466	9 7.4	-19 20	5.8	G9	- 0.2	1.6	3
79554.....	2480	9 9.7	+15 21	5.6	K1	+ 25.0	0.1	3
80290.....	2502A	9 13.8	+51 41	6.1	F3	- 8.2	0.7	3
80956.....	2518	9 17.7	+25 37	6.5	G2	- 1.6	1.4	3
81192.....	2527	9 19.1	+20 13	6.7	G5	+135.8	0.1	3

RADIAL VELOCITIES

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TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
81873.....	2530A	9 ^h 23 ^m 2	+ 8° 37'	5.9	Ko	+ 22.7	1.6	5
81964†.....	+34°1998	9 23.9	+34 00	7.8	K3	— 57.5	0.5	3
82205.....	2548A	9 25.5	— 26 09	5.7	K3	+ 12.3	1.1	4
82870.....	2572	9 29.6	— 5 28	5.7	K1	+ 13.1	1.7	4
83273.....	2583	9 32.1	+25 07	6.6	F8	+ 30.9	1.0	3
83332.....	2585	9 32.5	— 24 51	5.9	K1	+30 .5	0.2	3
83343.....	2586	9 32.6	+14 48	6.6	F2	+ 26.1	2.0	3
83608.....	2597A	9 35.2	+39 24	7.3	G2	+ 4.5	0.8	3
84722.....	2624	9 42.1	+12 02	6.4	A3n	— 1.2	0.9	3
85217.....	2636	9 45.3	+ 4 49	6.7	F6	+ 19.6	1.4	5
85762.....	2654	9 48.9	+ 5 25	7.0	Mo	+ 27.7	1.5	3
86322.....	2668	9 52.6	+75 14	7.1	Ko	+ 6.9	1.1	5
87141.....	2684	9 58.0	+54 23	5.7	F4	— 16.6	0.3	3
87682.....	2693	10 1.6	+ 6 06	6.3	G6	+ 17.2	1.0	5
88048.....	2700	10 4.0	+ 6 40	6.8	K4	+ 26.8	1.5	6
88333.....	2708	10 6.0	— 7 56	5.8	K2	+ 0.7	1.7	4
88355.....	2711A	10 6.3	+13 51	6.8	F3	— 15.7	0.8	3
89024.....	+26°2064	10 11.1	+25 53	6.0	Ko	+ 34.6	0.3	4
89376.....	ADS 7721A	10 13.7	+21 04	9.3	K5	+ 23.6	1.5	4
89396*.....	+15°2188	10 13.9	+15 10	8.5	K5	+ 54.2	1.7	3
90040.....	2761	10 18.4	+34 13	5.8	K1	— 24.2	1.2	3
90043.....	2759	10 18.4	— 0 24	6.6	Ko	+ 0.5	2.1	3
90250.....	2765	10 20.0	+35 56	6.6	Ko	+ 11.9	0.7	3
90485†.....	2774	10 21.7	— 3 53	6.6	G7	+ 6.5	1.9	5
90717*.....	+30°2021	10 23.4	+30 15	6.7	K1	+ 2.6	0.9	3
90718.....	2782	10 23.5	+14 51	7.1	G5	+ 38.4	0.6	3
91011.....	2793	10 25.3	+ 2 40	7.1	Ko	— 0.2	0.2	3
91163*.....	+30°2031	10 26.4	+30 14	7.8	F8	— 20.9	0.5	3
91256†.....	2801	10 27.1	+ 5 10	7.2	G9	+ 7.7	2.8	5
92095.....	2828	10 32.9	+54 11	5.7	K3	+ 45.2	1.1	4
92196.....	2832	10 33.5	+16 39	6.6	F2	— 13.2	1.2	3
92354.....	2838	10 34.7	+68 58	5.9	K3	+ 3.8	1.3	3
92538†.....	C 1290	10 35.9	+66 32	8.7	Go	+ 2.5	0.4	3
92620.....	2847	10 36.6	+32 13	6.3	M5	+ 19.0	1.2	4
92749.....	2851A	10 37.5	+ 4 06	6.8	F5	+ 18.3	0.2	3
92841B.....	2858B	10 38.2	+ 5 16	7.1	G7	— 2.5	1.5	4
93013*.....	+45°1860	10 39.4	+45 30	8.2	G7	+ 13.1	1.3	3
93102.....	2864	10 40.0	+ 3 01	6.6	K4	+ 13.8	1.8	3
93213*.....	+44°2012	10 40.7	+44 38	8.0	F4	+ 25.5	1.4	3
93859.....	2890	10 45.0	+57 07	5.8	K1	+ 15.6	0.7	3
93875.....	2891	10 45.1	+59 51	5.7	K2	— 20.2	0.5	3
94084.....	2896	10 46.5	+53 02	6.6	Ko	— 0.1	1.0	4
94480†.....	2904	10 49.3	+26 01	6.2	A5n	+ 5.1	2.5	6
94497.....	2907	10 49.4	+34 34	5.9	G7	— 27.4	1.4	3
94672†.....	2913A	10 50.6	+ 1 16	6.0	F3	+ 8.2	1.7	5

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
94738.....	2916A	10 ^h 51 ^m 0	+ 0° 58'	6.9	K3	— 27.1	0.2	3
†.....	+42°2163	10 51.4	+42 25	9.6	K3	— 25.6	2.2	4
94864*.....	+ 0°2718	10 52.0	+ 0 14	6.9	F4	+ 3.0	2.5	3
95808.....	2937A	10 58.3	—10 46	5.6	G6	— 8.0	1.5	4
95955†.....	C 1347	10 59.0	+66 21	8.5	K4	— 29.0	1.3	3
96813.....	+37°2162	11 3.9	+36 51	6.0	Mb	+ 22.7	0.7	3
97855.....	2977A	11 10.3	+53 19	6.3	F2	— 38.2	0.1	3
98354*.....	+15°2321	11 13.8	+14 49	6.9	F7	+ 24.2	1.6	3
98366.....	2988	11 13.8	+ 2 12	6.0	K0	+ 5.7	1.5	3
98824.....	2994	11 17.3	+17 59	7.0	K2	+ 5.8	1.1	3
99055.....	3000	11 18.9	+ 1 57	5.5	G7	— 9.6	1.2	3
99285.....	3008A	11 20.4	+17 00	5.6	F2	+ 19.3	1.5	4
99564.....	3017	11 22.1	—11 48	6.0	F4	+ 5.2	0.9	3
100255*.....	+29°2179	11 27.2	+29 36	7.8	F2	+ 13.2	0.8	3
100470.....	+37°2195	11 28.6	+37 23	6.3	K0	+ 22.0	0.5	3
100949.....	3059	11 32.0	—22 24	6.7	K0	+ 22.1	1.5	3
101154.....	3066A	11 33.3	— 1 53	6.2	K1	— 14.5	1.2	3
101198.....	3070	11 33.6	—12 39	5.6	F5	— 24.3	1.0	3
101585*.....	+45°1955	11 36.3	+44 45	7.8	M3	+ 0.1	1.7	3
103327.....	3118	11 48.8	— 3 13	7.3	G6	+ 26.2	2.5	3
103462.....	3119	11 49.6	—25 10	5.5	G4	— 10.9	1.4	3
103932†.....	—26°8883	11 53.0	—27 08	7.2	K6	+ 57.0	0.7	4
104075.....	ADS 8374A	11 54.1	+33 43	6.0	K0	— 0.2	1.3	3
104356.....	3140	11 55.9	— 1 13	6.4	G8	+ 36.1	0.9	4
104710*.....	+30°2217	11 58.4	+30 14	7.7	M5	— 3.7	0.8	3
104827B.....	3150B	11 59.2	+22 01	7.5	F2	+ 11.8	1.5	3
105089.....	3158	12 0.9	— 2 34	6.5	G8	+ 17.1	1.2	3
106574.....	3189	12 10.4	+70 45	5.9	K2	— 10.9	0.7	4
106798.....	3196A	12 11.9	+80 41	7.3	A8n	— 10.6	2.7	4
106888*.....	+15°2441	12 12.5	+15 00	8.1	F8	— 0.2	2.3	3
106975§.....	3201B	12 13.0	— 3 24	7.0	F5	+ 0.1	0.9	3
106976§.....	3201A	12 13.0	— 3 24	6.6	F4	— 1.1	...	2
107161.....	3205A	12 14.2	— 8 22	7.0	K0	— 11.2	0.5	3
107170*.....	+15°2445	12 14.3	+15 07	6.7	G9	+ 25.9	1.3	3
107288*.....	+14°2489	12 15.0	+14 25	6.9	K0	+ 9.2	0.8	3
107705.....	3223A	12 17.4	+05 52	6.5	F7	+ 4.6	0.4	3
107815.....	3226	12 18.1	—24 17	5.8	K1	— 1.8	0.8	3
108421.....	ADS 8553A	12 22.2	+27 35	9.2	K5	— 0.8	0.9	3
108477.....	3246	12 22.6	—16 05	6.5	G4	— 8.8	1.0	3
108877.....	ADS 8576A	12 25.5	+ 4 04	7.4	G7	— 4.3	1.5	3
108954.....	3267	12 26.1	+53 37	6.2	F7	— 19.7	1.2	3
109014.....	3270	12 26.5	— 4 30	6.3	G9	+ 2.7	1.1	3
109213*.....	+75°473	12 28.0	+75 22	7.5	G9	— 29.2	0.8	4
109272.....	3275	12 28.4	—12 17	5.8	G8	— 15.5	1.4	4
109519.....	+22°2490	12 30.2	+22 26	6.1	K0	— 14.0	0.8	3

§ Combined velocity, -0.4 ± 0.6 .

RADIAL VELOCITIES

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TABLE 1—Continued

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
109551.....	3287	12 ^h 30 ^m 5	+70° 34'	5.5	K2	+ 4.6	0.5	4
110046.....	3317	12 38.5	-01 02	6.1	G5	+ 0.2	0.4	4
110666.....	3318	12 38.7	-27 47	5.7	K4	+ 7.6	1.8	4
111199.....	3330	12 42.4	- 5 45	6.3	F5	+ 12.9	0.2	3
111631†.....	C 1633	12 45.6	- 0 13	8.7	Mo	+ 4.1	3.0	3
111892.....	3350B	12 47.4	+17 39	6.9	F5	+ 8.2	1.0	6
112374.....	3368	12 51.1	-25 55	6.8	cF6	- 22.0	1.1	5
112992.....	3378A	12 55.4	- 2 50	6.1	K2	+ 23.5	1.4	4
113337.....	3385	12 57.9	+64 09	6.0	F4	- 11.3	0.9	4
113459.....	3388	12 58.8	-03 08	7.2	A7n	+ 0.6	3.8	5
113847†.....	3396A	13 01.4	+45 48	5.7	K2	- 19.2	1.5	5
113865*.....	+29°2365	13 01.4	+29 34	6.4	A3n	+ 2.0	1.6	4
114113†.....	3404	13 03.3	-08 27	5.7	K3	+ 16.8	2.3	3
114493.....	ADS 8810A	13 05.8	+13 51	7.3	K2	- 17.8	1.8	4
114674.....	3423	13 06.9	+41 19	7.3	G6	- 1.6	1.5	3
115004.....	3432	13 09.2	+45 41	5.0	G9	- 19.9	1.1	3
115046.....	3434A	13 09.5	+11 52	5.8	Mo	+ 12.2	1.4	5
115136.....	+68°720	13 10.1	+67 49	6.8	K0	+ 4.7	0.5	3
115466.....	3444	13 12.2	-10 01	7.2	A8s	+ 6.0	1.2	3
115539*.....	+14°2593	13 12.7	+14 18	7.3	G4	- 8.9	1.8	3
116010.....	3455	13 15.8	+40 41	5.7	K1	- 21.2	0.7	3
116175.....	3460	13 16.8	-12 03	7.1	M1	- 32.5	0.8	3
116305.....	3467	13 18.1	-04 24	5.9	K3	+ 10.3	0.7	3
116459.....	3470	13 18.6	+85 17	7.4	F7	+ 11.9	1.8	4
117207.....	3490	13 24.1	-00 51	6.4	K0	+ 39.9	1.5	3
117246.....	3489	13 24.1	-18 13	7.0	K2	+ 19.8	1.5	3
117304†.....	3492	13 24.3	+11 20	5.8	G9	- 4.4	1.9	3
117789.....	3503A	13 27.5	-14 51	5.6	K2	- 39.0	1.6	6
117818.....	3504	13 27.7	- 9 39	5.4	G5	- 1.5	0.2	3
117878.....	3505	13 28.2	- 7 07	7.1	A4n	- 17.1	3.2	3
118036*.....	+0°3075	13 29.2	+ 0 12	7.7	K1	- 1.7	0.6	3
118219.....	3510	13 30.3	- 4 53	5.8	G6	- 7.7	0.8	3
118330*.....	-0°2710	13 31.1	- 0 25	7.0	F6	+ 16.8	0.6	4
118328†.....	ADS 8959A	13 31.2	+68 17	8.9	G2	+ 19.8	1.6	4
118742.....	3522A	13 33.7	+39 41	7.9	G2	- 21.6	2.3	3
119461.....	3538A	13 38.3	-03 46	7.0	K4	+ 5.2	1.6	6
120164.....	3559	13 42.7	+39 03	5.6	G9	- 10.1	1.0	3
120565†.....	3574	13 45.2	+83 15	6.2	G6	- 49.6	2.4	3
121107.....	3588	13 48.4	+18 26	5.7	G4	- 11.8	1.7	3
121825*†.....	+44°2312	13 52.8	+44 46	7.6	F9	+ 22.3	2.1	3
122106.....	3608	13 54.6	- 3 04	6.3	F5	- 8.2	1.2	3
122430.....	3614	13 56.7	-26 57	5.7	K3	+ 0.5	0.2	3
122442*.....	+29°2483	13 56.8	+28 53	7.9	A7s	- 2.8	1.3	3
122992*.....	+29°2486	14 00.0	+29 37	8.2	M4	- 16.1	1.5	3
123255.....	3625	14 01.4	-08 50	5.5	A8n	- 36.5	2.9	4

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
123409*	+29°2493	14 ^h 02 ^m 4	+28°54'	7.0	G6	— 54.6	0.7	3
124674.....	3652B	14 09.9	+52 15	6.9	F1	— 17.5	1.1	7
125180*	+15°2690	14 12.7	+15 44	6.0	M3	— 7.8	1.1	3
126218.....	3695	14 19.1	—24 21	5.4	G8	— 22.7	1.4	3
127168.....	3714A	14 24.8	— 3 48	7.0	F1	— 27.5	0.5	4
128902.....	3740	14 34.5	+44 04	5.9	K2	— 49.6	1.3	3
128941.....	3741AB	14 34.7	+52 01	7.6	F4	— 23.8	1.6	3
129230*	+0°3223	14 36.3	+ 0 32	8.1	G7	+ 23.1	1.8	3
	ADS 9352A	14 38.0	+19 56	9.9	Mo	— 16.0	2.3	3
129798.....	3762A	14 39.6	+61 41	6.3	F4	— 6.8	1.1	3
129926B.....	3766B	14 40.2	—25 01	6.9	F9	— 20.4	0.6	3
129978.....	3768	14 40.4	—15 02	6.6	K2	— 39.3	0.8	3
129980.....	3769	14 40.5	—20 45	6.4	F9	— 0.7	1.3	4
130144.....	+15°2758	14 41.4	+15 33	6.1	M5	— 21.8	0.5	3
130157.....	3773	14 41.5	—20 54	6.1	K5	— 23.6	2.1	4
130741*.....	+44°2393	14 44.8	+44 39	9.4	F5	— 1.6	2.6	3
130945.....	3789	14 45.7	+46 32	5.8	F4	— 5.4	1.7	3
130948.....	+24°2786	14 45.8	+24 20	5.8	G2	— 6.7	0.1	3
131027.....	3792	14 46.2	—17 57	6.8	G7	— 21.4	1.8	4
131041A.....	3793A	14 46.3	+49 07	6.1	F6	— 34.0	0.6	3
131315*.....	+45°2229	14 47.8	+45 20	8.5	Go	— 25.6	0.8	3
131507.....	3803	14 48.9	+59 42	5.7	K4	+ 12.6	1.2	4
131530.....	3804	14 49.0	—11 29	5.8	G7	— 23.3	1.5	3
132683†.....	C 1989	14 55.3	—10 44	9.3	Mo	+ 14.3	2.1	4
133544*.....	+29°2618	15 00.0	+29 26	7.8	A2n	— 18.1	0.3	3
133670.....	—21°4030	15 00.6	—21 39	6.1	Ko	+ 5.2	1.0	3
133872.....	3851	15 01.7	+84 20	7.1	K3	— 11.5	1.6	4
134066A.....	ADS 9507A	15 02.7	+ 9 37	6.7	Go	— 35.0	1.0	4
134066B.....	9507B	15 02.7	+ 9 37	7.0	Go	— 34.7	0.5	3
134323.....	+13°2901	15 04.1	+13 37	6.1	G6	— 47.1	1.7	4
135208.....	3873A	15 08.8	—18 03	6.7	F3	— 24.9	0.8	4
135244*.....	+59°1632	15 09.0	+59 26	7.6	K5	— 10.8	0.3	3
135534.....	3884	15 10.6	—22 02	5.7	K5	— 4.8	1.9	4
136479.....	3904	15 15.8	— 5 28	5.6	K1	— 32.5	1.7	7
136512.....	3908	15 16.0	+29 59	5.6	G7	— 53.3	1.0	4
136801.....	3913	15 17.5	—14 47	6.7	Mo	+ 14.2	1.0	3
136956.....	3917	15 18.4	—12 01	5.8	G6	— 25.5	1.2	4
137949.....	3941	15 23.9	—17 06	7.2	F1p	— 31.6	1.2	5
138562.....	3948	15 27.8	— 0 51	5.8	G9	— 15.6	0.5	3
138852.....	3958	15 29.5	+64 33	5.9	G5	+ 10.6	1.2	3
139087.....	+11°2826	15 31.1	+11 35	6.1	G9	— 26.7	1.9	3
139225.....	3970	15 31.9	+16 27	5.9	A6n	— 0.4	2.6	4
139254.....	3971	15 31.9	—22 49	5.8	Ko	+ 7.6	1.8	3
139440.....	3974	15 33.1	—18 58	5.5	G2	+ 46.6	0.4	3
139457.....	+10°2886	15 33.2	+10 35	7.0	F6	+ 38.1	1.4	3

RADIAL VELOCITIES

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TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
139460.....	3975B	15 ^h 33 ^m 3	-08° 28'	6.6	F6	+ 3.0	1.0	4
139569A 	ADS 9727A	15 33.8	+30 26	8.8	F6	- 24.4	1.6	3
139569B 	ADS 9727B	15 33.8	+30 26	9.0	G1	- 27.7	2.2	3
139590.....	+ 0°3387	15 33.9	+ 0 01	7.6	F9	- 28.0	1.1	3
139641.....	3979	15 34.2	+60 41	5.4	G5	- 8.3	0.9	4
139778.....	+54°1758	15 35.0	+54 51	6.0	K0	- 22.3	0.8	3
139892.....	3988B	15 35.6	+36 58	5.1	B7s	- 19.1	2.3	5
140301.....	3996	15 37.8	-14 43	6.4	K0	+ 21.0	1.1	3
140538.....	4000A	15 39.0	+02 50	5.8	G5	+ 18.9	1.4	4
141353.....	+14°2940	15 43.6	+14 06	6.1	K0	- 50.5	1.0	3
143393*.....	+29°2748	15 55.0	+29 44	7.2	K3	+ 18.3	0.8	4
143803.....	4079	15 57.4	+75 52	6.9	G5	- 18.4	0.5	3
143807*.....	4080	15 57.4	+30 07	4.9	A0s	- 24.3	1.1	3
	+35°2774	16 02.9	+34 55	10.5	M0	+ 8.7	1.4	3
145085.....	+ 3°3132	16 04.0	+ 3 43	6.1	K5	+ 9.8	0.9	3
145772.....	β GC 7542A	16 07.6	+14 49	8.1	K4	+ 35.2	1.8	4
145809.....	4127	16 07.8	-21 09	6.7	G0	+ 16.2	0.1	3
146169.....	4136	16 09.9	+ 8 07	6.8	K4	- 19.8	0.6	3
146388.....	4139	16 11.0	+19 04	5.9	K3	- 17.3	0.7	6
146436.....	4140	16 11.1	-19 51	6.6	G8	- 32.8	1.1	3
147142*.....	4157	16 15.0	+75 28	6.5	K3	- 25.3	1.1	5
148374.....	4191A	16 22.5	+61 55	5.9	G7	- 24.3	1.2	3
150117.....	4232A	16 33.9	+53 08	5.6	A0n	- 12.0	2.0	4
150118.....	4232B	16 33.9	+53 08	6.6	A0n	- 18.0	0.6	4
150449†.....	4240	16 36.0	+56 13	5.4	K0	- 20.1	2.4	3
151415.....	4267A	16 42.1	-24 21	7.5	M0	- 74.5	1.5	3
151837.....	4275	16 44.8	+55 35	7.0	K5	- 6.5	0.9	5
152173†.....	4286	16 46.7	+29 59	5.9	M1	- 8.0	1.9	5
152534.....	4298	16 48.8	-23 21	7.0	G7	- 26.0	1.2	3
153166.....	4314	16 52.7	+60 31	7.2	K3	- 41.7	1.8	3
154084.....	+25°3183	16 58.2	+25 40	6.0	G7	- 50.6	1.1	3
154127*.....	+29°2924	16 58.5	+29 26	7.5	A3n	- 27.0	1.5	3
154212.....	4339	16 59.0	-10 57	7.1	K2	- 23.7	1.1	3
154227*.....	+29°2927	16 59.1	+29 38	8.0	K3	- 2.6	0.6	3
154779.....	4352	17 02.4	-17 29	6.1	K0	- 13.2	1.9	3
155967*.....	+14°3206	17 09.7	+14 42	8.1	F2	- 16.7	1.9	3
156115*.....	-15°4502	17 10.6	-15 06	6.8	M0	- 7.7	0.4	3
156164B.....	4376B	17 10.9	+24 57	8.3	G4	+ 5.0	2.5	3
156350.....	4383B	17 11.9	-24 11	6.9	F5	- 28.9	1.3	4
156365.....	4385	17 12.0	-23 58	6.7	G3	- 15.2	0.6	3
157089.....	+ 1°3421	17 16.1	+01 32	7.0	F5	-161.1	2.4	4
157498.....	4412	17 18.5	- 9 16	7.8	G1	- 38.2	0.7	3
158974.....	4440	17 27.1	+31 14	5.8	G8	- 25.9	1.5	3
159501.....	4455	17 29.9	+41 19	5.8	K1	- 28.3	1.5	4
160018.....	-10°4528	17 32.6	-10 52	5.9	G8	- 32.0	0.7	3

|| Combined velocity, -26.0 ± 1.3 .

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
160042.....	4467	17 ^h 32 ^m 7	-21° 51'	6.7	G7	+ 0.2	1.5	5
160181.....	4468	17 33.4	+24 22	5.7	A0	+ 1.0	0.9	6
160290.....	4471	17 34.0	+48 39	5.5	K1	+ 31.5	1.6	3
160315.....	4472A	17 34.1	+ 2 05	6.4	K0	+ 3.2	1.2	3
†	20C 1062	17 40.9	+43 26	10.3	M3	- 21.5	1.7	4
162757.....	4515	17 47.5	-10 53	6.3	K1	- 34.2	1.3	3
162989.....	4518	17 48.8	+40 00	6.1	K4	- 61.6	1.6	4
163532.....	4529	17 51.5	- 4 04	5.6	G9	- 35.4	0.7	3
163589*†.....	+45°2620	17 51.8	+45 33	8.2	G3	- 37.6	2.5	3
163608*.....	+45°2621	17 51.9	+45 13	8.0	A2n	- 25.6	1.9	5
163966*.....	+45°2626	17 53.8	+45 01	6.8	Aon	- 21.9	0.9	3
163990*.....	+45°2627	17 53.9	+45 28	6.2	M6	+ 16.5	1.6	3
164031.....	4540	17 54.1	-24 17	6.7	K0	- 25.4	0.7	3
164253*.....	+30°3096	17 55.2	+30 03	7.3	G4	- 20.3	0.9	4
164595*.....	+29°3165	17 56.8	+29 34	7.2	G1	+ 6.7	1.2	3
164755*.....	+30°3106	17 57.6	+30 39	7.1	K4	- 28.6	1.0	3
165281.....	+30°3113	18 0.1	+30 24	6.7	F7	+ 1.2	0.9	3
165438.....	4574	18 0.9	- 4 46	5.9	K1	- 18.4	1.7	3
165687.....	4579	18 2.0	-17 10	5.7	K1	- 31.9	1.5	3
166460.....	4597	18 5.7	+ 3 18	5.7	K2	+ 10.0	1.0	3
167027.....	4608	18 8.3	+56 15	7.5	K3	- 51.8	0.9	3
167036.....	4607	18 8.3	-21 44	5.7	K3	- 58.4	1.9	4
167570.....	4616	18 10.6	-20 35	7.1	G2	- 16.6	1.7	4
167720.....	-17°5112	18 11.4	-17 24	6.0	K3	- 6.7	0.3	3
168432.....	ADS 11257A	18 14.3	- 5 0	7.8	F6	- 10.9	0.8	3
169028.....	4647	18 17.6	+51 18	6.5	K1	- 9.8	1.3	6
169191.....	4651	18 18.4	+17 47	5.5	K2	- 19.2	1.2	4
169666.....	4659	18 20.7	+71 28	7.8	F2	- 40.9	0.2	3
170433.....	4676	18 24.3	-18 48	5.8	K0	- 0.9	1.0	3
170657.....	4684	18 25.5	-18 58	7.0	K0	- 47.7	1.1	3
170975.....	4694	18 27.0	-14 56	5.9	cK5	+ 1.6	0.6	3
171237.....	4700	18 28.4	-24 18	6.4	cF3	+ 9.2	0.6	3
171746A.....	ADS 11483A	18 31.4	+16 51	6.2	F9	+ 8.6	1.1	3
171746B.....	ADS 11483B	18 31.4	+16 51	7.2	G0	+ 1.6	0.2	3
172085††.....	C 2446	18 33.1	+24 21	7.4	F9	- 37.2	2.0	6
173399.....	4741A	18 40.0	+44 50	7.1	G2	- 35.6	0.9	4
173666*.....	+44°2983	18 41.4	+44 47	7.8	F4	- 35.2	0.6	3
174504*.....	+45°2777	18 45.7	+45 09	6.8	A9s	- 15.5	1.2	3
175317.....	4791	18 49.8	-16 30	5.6	F5	- 42.3	1.3	3
175466.....	4795	18 50.3	+42 47	6.9	K5	- 14.8	1.8	3
175515.....	4798	18 50.6	+ 6 29	6.0	G9	- 23.0	0.7	3
175751.....	4808	18 51.7	- 5 59	5.0	K2	- 91.1	0.5	3
172232.....	4818	18 54.2	+13 46	5.9	A6sp	+ 13.8	0.3	3
176408.....	4822	18 55.1	+57 41	5.7	K3	- 33.5	1.5	3
176593.....	4828	18 55.8	-15 25	6.4	G6	+ 20.8	1.0	3

RADIAL VELOCITIES

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TABLE 1—Continued

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
176598.....	4829	18 ^h 56 ^m 0	+65° 07'	5.8	G5	— 4.1	1.4	4
230409†.....	+18° 3991	18 56.4	+18 57	10.0	G4	— 19.4	2.2	4
177463.....	4853A	18 59.7	— 4 11	5.5	K1	— 17.2	0.8	4
177809*†.....	+30° 3409	19 1.1	+30 35	6.4	M2	— 15.7	2.1	5
178003*.....	+29° 3472	19 1.9	+29 46	6.6	Mo	— 27.7	1.0	3
179130†.....	4879	19 6.3	—14 45	7.4	K3	— 37.6	3.2	4
179484BC.....	ADS 12145BC	19 7.8	+38 37	8.7	G4	+ 25.3	1.0	6
179785*.....	+14° 3830	19 8.8	+14 46	7.4	K4	— 32.1	1.1	3
180006.....	4894	19 9.8	+56 41	5.2	G7	— 12.9	0.9	3
180928*.....	4915	19 13.3	—15 43	6.3	K4	— 17.3	1.2	6
181645†.....	4935	19 16.0	—18 30	6.0	G9	— 12.2	1.8	5
182416.....	4944	19 19.4	—24 10	5.6	K4	+ 40.0	1.9	4
182998.....	4968	19 22.3	—18 34	6.9	K5	— 31.6	0.9	3
183968*.....	+59° 2038	19 27.0	+59 34	7.8	K4	— 24.9	1.0	3
184835.....	5001	19 31.3	—18 27	5.9	K3	— 6.8	1.9	3
184985.....	5006	19 31.9	—14 31	5.6	F6	— 14.7	0.5	3
185128.....	5008	19 32.5	— 4 52	5.5	F1	— 37.8	1.4	3
185194.....	5010A	19 32.8	+16 14	5.7	G8	— 33.6	1.4	3
185394.....	5013	19 33.7	+63 13	6.6	K4	+ 9.2	1.8	3
185467.....	5016	19 34.1	—23 39	6.1	K1	— 27.6	1.0	3
187810*.....	+44° 3265	19 46.8	+44 54	8.3	K0	— 20.1	1.4	3
189231.....	5114	19 53.8	+64 27	6.9	K1	+ 0.7	0.3	3
190403*.....	+29° 3873	19 59.7	+29 42	6.8	G5	— 11.6	1.3	3
191067.....	5159	20 2.9	— 0 58	6.0	K1	— 2.6	1.0	3
191277.....	5165	20 4.0	+61 42	5.6	K3	+ 6.0	0.2	3
191753.....	5174	20 6.4	—12 41	6.4	G9	+ 1.4	0.4	3
192107.....	5179	20 8.1	— 1 19	5.6	K5	— 27.7	1.8	5
192145*.....	+15° 4089	20 8.2	+15 47	7.6	F4	+ 3.7	1.8	3
192781.....	5194	20 11.6	+60 20	6.2	K5	0.0	1.4	3
192879.....	5198	20 12.1	—22 17	6.0	G8	— 17.3	0.8	3
194577.....	5238	20 21.3	+21 05	5.8	G0	— 21.1	0.3	3
194765†.....	5242A	20 22.3	— 2 26	6.6	F2	— 16.7	1.7	5
194959.....	5246	20 23.3	—17 46	6.8	F8	— 14.9	1.6	4
194960.....	5247D	20 23.3	—18 12	6.7	G8	+ 4.4	1.8	4
195019.....	+18° 4505	20 23.7	+18 28	6.8	G2	— 93.2	0.7	3
196348.....	5285	20 31.7	—15 30	6.9	K2	+ 19.0	0.5	3
196565.....	5293	20 33.2	+81 06	6.9	G9	— 3.6	0.2	3
197039.....	5314	20 36.0	+15 17	6.8	F6	— 31.6	0.9	3
198237*.....	+45° 3275	20 43.9	+45 13	6.7	Mo	— 5.4	0.8	3
198390.....	5358A	20 44.9	+12 10	6.0	F4	+ 0.8	0.4	3
198431†.....	5360	20 45.2	—12 55	6.0	K1	— 43.6	2.5	3
198802.....	5372	20 47.6	—11 57	6.4	G1	— 1.3	0.9	5
199012.....	5374	20 49.1	—18 18	5.9	K0	— 38.4	1.5	5
199098*.....	5376	20 49.8	+44 48	5.6	G8	— 26.5	0.7	4
199101.....	5378	20 49.8	+33 03	5.7	K5	— 7.5	1.5	5

TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
199191.....	5381	20 ^h 50 ^m 4	+54° 08'	7.2	G6	−195.0	0.5	6
199223.....	5382A	20 50.7	+ 4 09	6.2	G6	− 30.5	2.0	6
199665.....	5395	20 53.6	+10 27	5.6	G6	+ 3.7	1.3	3
199870.....	5401	20 54.7	+44 05	5.8	G7	−19.4	1.6	5
199960.....	5406	20 55.3	− 5 07	6.3	G1	−17.9	1.1	3
200256.....	5413A	20 57.3	+ 6 47	7.4	F3	− 5.2	1.4	3
200465.....	5416A	20 58.5	+39 07	6.5	K3	− 7.4	1.3	3
200497.....	5418A	20 58.8	− 6 13	6.2	G4	+ 2.0	1.6	3
201194*.....	+30° 4322	21 2.9	+30 12	7.5	B3n	−15.6	0.4	3
202403.....	5459A	21 10.5	+40 44	7.8	G5	−12.5	0.9	4
203364.....	5483	21 16.6	− 9 45	6.9	K3	−51.2	1.9	4
203380A.....	5485A	21 16.8	+52 33	6.9	F6	+33.1	1.0	4
203380B.....	5485B	21 16.8	+52 33	6.9	G5	+33.5	1.1	3
203638.....	5494	21 18.5	−21 17	5.5	K2	+23.0	1.4	3
†.....	+41° 4115	21 18.7	+41 26	9.1	K4	+23.5	2.4	4
203926.....	5503	21 20.1	− 3 59	5.7	K4	−24.0	0.4	3
204692.....	5521	21 25.2	−14 44	6.8	K2	+ 3.7	0.5	3
205072.....	5533	21 27.8	+80 05	6.1	G6	+ 3.8	0.9	3
206078.....	5561	21 34.5	+61 51	7.7	G6	−74.4	0.5	3
207489.....	5612	21 44.9	+38 29	7.2	cGo	−58.1	1.5	3
207920.....	5622	21 47.5	− 4 28	6.7	G5	+ 7.4	1.6	4
207978.....	5625	21 48.0	+28 20	5.6	F0	+16.3	1.3	3
208111.....	5631	21 49.0	− 4 45	5.9	K2	−36.8	0.9	3
209964*.....	+29° 4585	22 2.0	+30 05	8.7	F3	+13.0	1.0	3
210060*.....	+29° 4586	22 2.6	+29 49	7.4	K2	− 9.0	2.6	3
211800*.....	+14° 4772	22 14.6	+15 03	7.2	M1	0.0	0.5	3
*.....	+15° 4622	22 15.0	+15 20	9.3	K3	−21.1	0.2	3
212271.....	5768	22 17.9	−25 16	5.6	G9	−10.0	1.5	3
212790.....	5788	22 21.9	+53 18	7.4	K2	−33.8	1.6	3
213022†.....	5792	22 23.4	+70 16	5.7	K2	−16.3	2.7	4
213042†.....	C 2920	22 23.6	−30 30	7.8	K6	+ 5.8	1.2	3
213179.....	5798	22 24.5	+26 15	6.0	K2	−45.3	1.6	6
214128†.....	5830	22 31.0	+19 46	6.7	K2	−32.3	2.8	4
214567.....	5840	22 34.0	+19 00	5.8	G7	−21.3	1.2	3
216174.....	5887	22 45.6	+55 22	5.6	K0	−35.8	0.4	3
216380.....	5896A	22 47.5	+61 10	6.1	G3	+ 1.3	1.0	3
216777†.....	20C 1391	22 50.5	− 8 21	8.9	G1	−24.2	1.3	4
217264.....	5924A	22 54.3	+ 0 26	5.6	K1	−10.6	1.5	3
217303.....	5925	22 54.7	−25 42	5.8	K0	−34.4	0.5	3
218043*.....	+30° 4869	22 59.8	+30 45	6.8	F2	− 8.9	1.9	3
218300*.....	+30° 4875	23 01.8	+30 29	8.4	K0	− 3.6	1.5	3
218527.....	5959	23 03.6	+ 1 35	5.6	G4	−18.3	1.0	3
219945.....	6001	23 14.8	+48 05	5.4	K0	+11.3	0.6	3
220088†.....	6006	23 15.9	+29 52	5.8	M0	−18.7	2.0	6
220102*.....	+59° 2701	23 16.0	+59 44	6.7	cF3	−21.9	1.0	3

RADIAL VELOCITIES

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TABLE 1—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Vel.	P.E.	No.
220363.....	6015AB	23 ^h 18 ^m 0	+11°46'	5.3	K4	— 1.5	0.4	3
220766.....	6028A	23 21.3	—22 17	6.6	K0	+ 11.6	1.1	3
221146.....	6043	23 24.4	—01 35	7.1	G0	— 14.9	1.1	3
221409.....	6051	23 26.8	—01 38	6.5	K1	— 22.0	0.4	3
221438*.....	+59°2740	23 27.1	+59 59	9.2	A4s	— 5.6	1.3	3
221639*.....	+59°2744	23 28.7	+59 52	7.3	G9	+ 0.8	0.6	3
221758.....	6061	23 29.7	+32 57	5.7	K0	— 2.3	0.7	3
*.....	+60°2582	23 30.8	+60 22	8.9	B8	— 64.2	3.1	3
222455*.....	— 0°4547	23 35.6	— 0 08	7.7	K4	— 1.7	0.1	3
223096*.....	— 0°4566	23 41.5	— 0 01	7.4	G7	+ 1.3	0.2	3
223170.....	6104	23 42.1	—12 28	5.9	K1	+ 11.7	0.4	3
223238†.....	C 3121	23 42.7	+ 3 36	8.2	G2	— 16.5	1.4	3
223252.....	6107A	23 42.8	— 3 19	5.6	G8	— 6.4	1.9	3
223792.....	6130	23 47.6	+21 11	6.8	G6	— 2.7	0.4	4
224103.....	6139	23 50.0	+ 6 31	6.1	A1	+ 18.3	1.2	4
224152.....	6141	23 50.5	+52 11	6.8	K3	— 1.4	1.9	3
224402*.....	+ 75°901	23 52.5	+75 45	7.7	Aon	+ 6.8	1.4	3
224661.....	6159	23 54.5	— 6 27	6.8	G7	+ 13.7	0.9	3
225010.....	6177	23 57.5	+65 33	7.5	A1	— 6.7	1.3	3
225197.....	6181	23 59.2	—17 05	5.8	K2	+ 26.4	0.2	3

TABLE 2
MEASURES OF 69 SPECTROSCOPIC BINARIES

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Range	No.
1210Ft....	ADS 218A	0 ^h 11 ^m 4	+54° 07'	8.1	A6n	+ 41, - 1	4
6114*.....	ADS 862A	0 57.3	+46 50	7.2	A3n	+ 50, -69	5
8909.....	+29° 243	1 22.7	+30 02	6.9	F4	- 10, -31	4
10783.....	+ 7° 275	1 40.4	+ 8 04	6.6	A3sp	+ 31, + 3	3
12558.....	470A	1 50.0	+25 27	5.9	F4	+ 24, +13	3
14044.....	516A	2 11.3	-10 17	7.2	Go	+ 42, +20	5
14597†.....	+14° 383	2 16.3	+15 04	7.9	Ao	+ 65, +16	4
16663†.....	+44° 558	2 35.2	+45 41	8.4	F8	+ 30, + 4	3
†.....	+48° 740	2 36.4	+48 35	9.0	K3	+ 16, -47	5
18538.....	678Ft	2 53.7	+51 37	6.8	A1n	+ 16, -10	4
19926§.....	720	3 07.1	+ 6 17	6.1	cG2	+ 19, -12	5
†.....	C 431	3 10.8	+30 40	9.7	K5	+ 52, +19	4
20631.....	753A	3 14.1	-18 55	6.1	F2	+ 44, + 2	7
23643*.....	+23° 539	3 41.5	+23 24	8.1	A3n	+123, -26	4
25202*.....	919	3 55.0	+17 55	6.3	A9n	+138, -43	8
27429*.....	+18° 624	4 14.6	+18 29	6.0	Fo	+ 88, -64	2
27483*.....	+13° 665	4 15.2	+13 38	6.8	F2	+118, -28	3
29678.....	1100	4 35.4	+75 46	6.3	A6n	+ 7, -30	5
30021.....	1113A	4 38.8	- 8 59	7.0	G6	+ 66, +23	3
37013.....	ADS 4200A	5 30.4	+21 56	7.2	F7	+ 41, + 7	6
40535.....	1491	5 54.3	- 9 23	6.3	F2	+ 29, + 4	4
41547*.....	1519	6 00.7	-10 14	5.8	F4	+ 73, - 9	3
42398.....	1541	6 05.4	+24 27	5.9	Ko	+ 43, +11	4
43246.....	+28° 1062	6 10.1	+28 54	7.3	A2p	+ 43, -67	5
48767.....	1726	6 39.9	+55 49	6.6	F6	+ 24, - 3	3
57049†.....	+15° 1541	7 14.5	+15 21	6.5	A1n	+ 13, -19	3
58579.....	1941	7 21.0	+20 27	5.9	Fo	+ 32, - 4	6
66751.....	2139	8 00.0	+70 01	6.5	F8	0, -16	4
69479.....	+ 4° 1945	8 12.1	+04 31	7.0	F8	+ 12, -20	4
70442-3.....	2212	8 16.9	-19 50	5.9	Go	+ 1, -28	6
71663 	2254	8 23.4	-02 11	7.0	Fo	+ 23, -70	16
78668.....	2453	9 04.4	-11 57	5.8	G6	0, -22	6
91106.....	2796A	10 26.0	- 7 07	6.4	Mo	+ 17, -12	5
91706.....	2818	10 30.2	-22 40	6.2	F5	+ 33, +10	3
93526.....	β GC 5563A	10 42.7	-14 44	6.5	A2s	+ 15, -44	3
94671.....	2914	10 50.6	+18 41	7.6	G4	+ 2, -20	6
95976.....	2941	10 59.2	+38 47	7.4	F5	+ 14, - 1	5
97140†.....	+59° 1353	11 05.8	+59 27	7.3	F9	- 4, -38	3
100238.....	3034	11 26.9	- 5 55	7.3	K1	+ 4, -30	3
105590.....	ADS 8440A	12 04.3	-11 18	6.8	G2	+ 15, - 7	4

* Double lines.

† Selected Area star.

‡ Proper-motion star.

§ The spectrum is veiled by that of companion.

|| Double lines?

RADIAL VELOCITIES

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TABLE 2—*Continued*

HD	Star	α (1900)	δ (1900)	Mag.	Sp.	Range	No.
107642†.....	-14°3500	12 ^h 17 ^m 1	-15°00'	6.7	K2	+ 14, -12	3
109944.....	3295A	12 33.6	- 3 49	7.2	M0	+ 26, 0	4
115559.....	-17°3811	13 12.8	-17 47	9.2	G1	+ 34, -11	5
115903.....	3454	13 15.1	-10 47	7.1	K0	+ 60, +35	4
135775¶.....	+10°2818	15 11.8	+10 04	6.6	F4	+ 1, -22	7
137629.....	3932	15 21.9	+47 25	7.2	F0	- 7, -31	5
139137†.....	3966	15 31.4	- 0 14	6.8	F5	- 5, -42	5
139461.....	3976A	15 33.3	- 8 28	6.5	F6	+ 14, -16	6
139813.....	3986Ft	15 35.2	+80 47	7.6	K0	- 8, -42	8
140122†.....	+ 0°3389	15 36.9	+ 0 46	8.1	A7s	+ 17, -14	4
144208.....	4088	15 59.6	+36 54	5.9	F3	+ 22, -18	8
146604**.....	4142	16 12.0	+23 22	6.6	G9	+ 19, + 5	6
146850†.....	-14°4398	16 13.3	-14 38	6.1	K4	- 24, -51	3
150937.....	4254	16 39.1	-23 00	6.9	F3	- 17, -49	4
161083.....	4485	17 38.4	-22 09	7.1	A5n	+ 30, -19	3
165590 	ADS 11060A	18 01.6	+21 26	7.9	G1	+ 17, - 9	5
172712.....	4728A	18 36.6	+52 15	7.5	A1n	+ 72, - 7	4
175635.....	4801A	18 51.2	+33 50	6.4	G2	+ 1, -25	9
189379†.....	+29°3829	19 54.6	+29 40	7.4	F8	+ 40, -49	4
196925.....	5312	20 35.3	+80 44	6.1	G8	- 4, -20	3
197433*†.....	+75° 752	20 38.7	+75 14	8.3	G4p		3
198345††.....	5355A	20 44.5	+47 28	5.6	K5	- 44, -17	8
204964†.....	+59°2387	21 27.0	+59 56	7.5	B2s	- 10, -31	4
206482.....	5571A	21 37.3	+57 08	7.1	F4	- 13, -32	4
212474.....	5775	22 19.4	- 1 42	7.1	G6	- 19, -48	7
213930.....	5821	22 29.8	+56 06	5.8	G6	0, -19	6
217888†.....	+30°4867	22 58.8	+30 32	8.1	A2s	+ 50, -75	4
221670†††.....	+59°2746	23 29.0	+59 54	7.7	G6	+ 13, - 4	4
221833§§.....	6064	23 30.4	+ 0 46	6.6	K2	+ 15, + 3	4

¶ Victoria, -7.6 ± 1.4 .** Victoria, $+15.0 \pm 0.2$.†† Victoria, -29.5 ± 0.3 .

†† Victoria, +9, one plate.

§§ Probably binary with small range; Victoria, $+7.8 \pm 1.9$.

CARNEGIE INSTITUTION OF WASHINGTON

MOUNT WILSON OBSERVATORY

March 1938