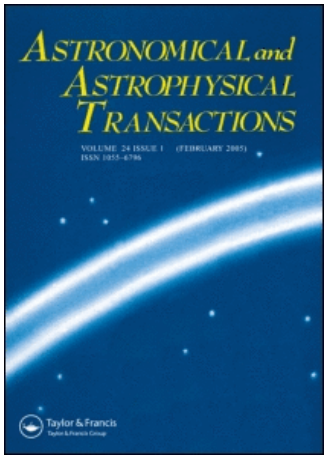

Astronomical & Astrophysical Transactions
The Journal of the Eurasian Astronomical Society
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713453505

The absolute proper motion of 79 stars from humphreys's list of stars in associations

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Online Publication Date: 01 January 1994
To cite this Article: Melnik, A. M. (1994) 'The absolute proper motion of 79 stars from humphreys's list of stars in associations', Astronomical & Astrophysical Transactions, 5:1, 243 - 247
To link to this article: DOI: 10.1080/10556799408230604
URL: http://dx.doi.org/10.1080/10556799408230604

Astronomical and Astrophysical Transactions, 1994,
Vol. 5, pp. 243–247
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THE ABSOLUTE PROPER MOTION OF 79 STARS FROM HUMPHREYS'S LIST OF STARS IN ASSOCIATIONS

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(December 16, 1992)

The absolute proper motions of 79 stars from Humphreys's catalogue of the stars in associations are derived. Proper motions are calculated for J2000.0 and for the epoch of observations in FK5 system.

KEY WORDS Proper motions – stellar associations

This paper continues the work of Valitova *et al.* (1990), where proper motions of 309 O and B giants with reliable photometry, MK spectral classification and radial velocities were calculated. That catalogue is also available on magnetic tape in the CDS (1989). Approximately 200 stars from that catalogue were included into Humphreys's list (1991) of stars in associations. We thank R. M. Humphreys for presenting the magnetic tape with the catalogue of stars in the associations to Sternberg Astronomical Institute. We have selected 79 stars with good photometry, spectral classification and radial velocity measurements but without precise proper motions. For approximately half of them, the errors of proper motions are less than 0.0020″/year.

The method of deriving proper motions was described in the first volume of the general catalogue by B. Boss. The weights of some catalogues are taken from Karimova and Pavlovskaya (1971). For other catalogues, the weights are obtained from intrinsic errors from the introduction of the corresponding catalogues and from the table published by Karimova and Pavlovskaya (1971).

Proper motions and coordinates are derived for J2000.0 and for the epoch observations in the FK5 system ignoring the systematic correction FK5–FK4. In order to convert the stellar positions and proper motions from the epoch B1950.0 to J2000.0, the standard matrix method from the Astronomical Almanac for 1989 was used.

The V magnitudes and spectral classifications are taken from published catalogues.

The Description of the Catalogue

No. – sequential number,
HD, BD – HD, BD number,
V – the V magnitude,
Sp – spectral classification,
α – the right ascension for equinox J2000.0 and epoch of observation t_α in the FK5 system,
δ – the declination for equinox J2000.0 and epoch of observation t_δ in the FK5 system,
μ_α – the proper motion in right ascension for equinox J2000.0 in the FK5 system in units of s/year,
ϵ_{μ_α} – the probable error of μ_α in units of 0.00001 s/year,
t_α – the epoch of observation in right ascension from 1900.0,
n_α – the number of catalogues used for the improvement of proper motion of GC stars or derivation of p.m. for other stars,
μ_δ – the proper motion in declination for equinox J2000.0 in the FK5 system in units of $''$/year,
ϵ_{μ_δ} – the probable error of μ_δ in units of 0.0001 $''$/year,
t_δ – the epoch of observation in declination from 1900.0,
n_δ – the number of catalogues used for the improvement of proper motion of GC stars or derivation of p.m. for other stars,
Ass – the association from Humphreys's list, containing the star.

I thank Pavlovskaya, E. D. for the help and useful advice.

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Table

No.	*HD, BD*	*V*	*Sp*	$\alpha_{(J2000.0)}$	$\delta_{(J2000.0)}$	μ_α	ϵ_{μ_α}	t_α	n_α	μ_δ	ϵ_{μ_δ}	t_δ	n_δ	*Ass*
1	12993	$8^m.95$	O6	$2^h09^m02^s.480$	57°55′55″.76	−0.00046	34	38.64	4	−0.0022	25	40.27	4	Per 1
2	13716	8.27	B1	2 15 39.398	57 45 47.92	−0.00066	34	60.85	10	−0.0007	25	58.68	10	Per 1
3	13745	7.88	B0	2 15 45.923	55 59 46.85	0.00000	23	57.13	11	−0.0021	23	55.02	11	Per 1
4	13744	7.58	A0	2 15 58.681	58 17 37.01	−0.00063	29	55.77	11	−0.0017	36	57.71	11	Per 1
5	13831	8.26	B0	2 16 39.203	56 44 16.17	−0.00086	37	60.86	9	−0.0035	13	58.05	9	Per 1
6	14053	8.43	B1	2 18 23.049	57 00 36.61	−0.00191	28	47.87	10	−0.0054	24	40.74	10	Per 1
7	14052	8.18	B1	2 18 28.134	57 12 30.14	−0.00009	47	35.78	5	−0.0012	49	37.66	5	Per 1
8	14250	8.96	B1	2 20 15.699	57 05 54.87	−0.00070	48	45.85	5	−0.0027	40	45.20	5	Per 1
9	14270	7.90	M3	2 20 29.003	56 59 35.16	−0.00035	28	43.48	7	−0.0048	24	40.56	7	Per 1
10	14330	7.96	M1	2 20 59.633	57 09 30.02	0.00038	25	44.07	6	−0.0013	35	41.32	6	Per 1
11	14404	7.90	M2	2 21 42.398	57 51 46.11	−0.00015	33	45.20	5	−0.0087	35	44.73	5	Per 1
12	14433	6.42	A1	2 21 55.439	57 14 34.37	0.00005	15	47.71	16	−0.0077	21	59.47	20	Per 1
13	14469	7.73	M3	2 22 06.895	56 36 14.97	−0.00008	39	39.03	8	−0.0031	54	37.73	8	Per 1
14	14488	8.95	M4	2 22 24.292	57 06 34.00	0.00040	31	40.48	6	−0.0058	42	40.98	6	Per 1
15	14489	5.17	A2	2 22 21.426	55 50 44.29	−0.00049	10	53.49	26	−0.0022	09	45.14	29	Per 1
16	14535	7.45	A2	2 22 53.489	57 14 42.52	0.00009	13	59.53	11	0.0004	26	56.62	12	Per 1
17	BD 56 595	8.10	M0	2 23 11.061	57 11 58.00	−0.00010	26	43.20	5	−0.0062	43	42.74	5	Per 1
18	14826	8.26	M2	2 25 21.852	57 26 14.10	0.00054	37	43.53	4	−0.0060	34	42.13	4	Per 1
19	15316	7.25	A2	2 29 58.553	57 49 14.53	−0.00019	23	52.42	15	−0.0004	12	52.00	16	Per 1
20	15325	8.51	B1	2 30 02.435	57 14 56.02	−0.00036	39	59.72	9	0.0014	18	56.32	9	Per 1
21	15450	8.84	B1	2 31 19.536	56 53 52.07	−0.00050	50	38.86	4	−0.0030	26	40.60	4	Per 1
22	15571	8.33	B1	2 32 24.772	57 25 44.29	−0.00044	18	55.18	8	−0.0007	34	58.64	8	Cam 1
23	16691	8.70	O5	2 42 52.029	56 54 16.50	−0.00039	16	54.61	11	0.0010	25	53.81	11	Per 1
24	16778	7.71	A2	2 43 53.683	59 49 21.90	0.00004	21	59.23	20	0.0034	19	62.49	20	Per 1
25	236995	8.64	A0	2 45 03.495	58 33 04.36	−0.00077	57	42.64	4	0.0058	05	41.98	4	Per 1
26	17378	6.26	A5	2 49 30.713	57 05 03.43	0.00025	33	38.00	9	−0.0066	18	34.61	11	Per 1
27	18326	7.82	O7	2 59 23.158	60 33 59.37	0.00017	20	58.83	8	0.0019	38	56.06	8	Cam 1

Table (Continued)

No.	*HD, BD*	*V*	*Sp*	$\alpha_{(J2000.0)}$	$\delta_{(J2000.0)}$	μ_α	ϵ_{μ_α}	t_α	n_α	μ_δ	ϵ_{μ_δ}	t_δ	n_δ	*Ass*
28	BD 60 651	7.55	B3	3 15 38.502	61 07 40.82	−0.00074	38	39.74	6	−0.0034	82	37.54	6	Cam 1
29	20041	5.78	A0	3 15 45.932	57 08 26.28	0.00044	32	29.04	21	0.0008	12	39.06	20	Cam 1
30	20134	7.47	B2	3 16 59.768	60 04 02.83	−0.00062	28	57.57	12	−0.0016	26	55.35	12	Cam 1
31	21389	4.54	A0	3 29 54.748	58 52 43.56	−0.00009	12	48.68	16	0.0013	10	43.20	16	Cam 1
32	22764	5.71	K4	3 42 42.724	59 58 09.74	−0.00009	07	44.93	12	0.0013	11	58.03	13	Cam 1
33	23675	6.72	B1	3 49 27.562	52 39 19.44	−0.00036	24	50.53	11	−0.0027	13	43.81	11	Cam 1
34	23800	6.49	B2	3 50 25.077	52 28 54.92	−0.00005	13	58.26	18	−0.0010	14	54.93	20	Cam 1
35	25056	7.03	G0	4 01 37.293	53 51 57.59	0.00087	14	62,87	13	−0.0019	17	62.82	14	Cam 1
36	25443	6.74	B1	4 06 08.055	62 06 06.68	−0.00009	20	53.02	23	0.0003	12	49.69	27	Cam 1
37	34748	6.31	B2	5 19 35.267	−1 24 42.85	−0.00052	14	59.43	9	0.0015	17	44.49	10	Ori 1
38	35149	4.99	B1	5 22 49.994	3 32 40.03	−0.00011	09	45.47	18	0.0003	09	38.46	17	Ori 1
39	35299	5.70	B2	5 23 42.305	−0 09 35.33	−0.00006	14	44.73	17	−0.0027	18	38.78	16	Ori 1
40	35337	5.22	B2	5 23 30.148	−13 55 38.44	−0.00004	12	47.42	7	0.0008	12	40.36	7	Ori 1
41	35439	4.94	B1	5 24 44.821	1 50 47.13	0.00015	12	43.38	25	−0.0006	18	42.02	26	Ori 1
42	35762	6.74	B2	5 27 08.296	3 51 19.97	−0.00005	11	47.47	10	0.0002	08	40.26	9	Ori 1
43	35777	6.61	B2	5 26 59.153	−2 21 38.27	0.00079	12	67.30	9	0.0002	19	67.51	9	Ori 1
44	35912	6.38	B2	5 28 01.472	1 17 53.55	0.00025	09	42.40	11	0.0019	16	39.80	11	Ori 1
45	36166	5.78	B2	5 29 54.765	1 47 21.40	0.00037	10	46.09	14	−0.0050	20	41.62	14	Ori 1
46	36285	6.32	B2	5 30 20.749	−7 26 05.47	−0.00031	14	51.02	9	−0.0020	23	43.87	9	Ori 1
47	36351	5.46	B2	5 31 14.538	3 17 31.91	0.00013	11	47.92	15	0.0001	14	41.51	15	Ori 1
48	36430	6.22	B2	5 31 20.889	−6 42 30.29	0.00019	16	50.83	10	−0.0037	17	48.37	11	Ori 1
49	36485	6.86	B2	5 32 00.404	−0 17 04.11	0.00003	12	47.86	8	−0.0030	19	38.05	9	Ori 1
50	36512	4.61	B0	5 31 55.860	−7 18 05.27	0.00001	10	50.78	12	−0.0069	13	38.02	13	Ori 1
51	36591	5.35	B2	5 32 41.357	−1 35 30.66	0.00010	09	48.68	15	−0.0011	15	49.81	16	Ori 1
52	36629	7.69	B2	5 32 57.076	−4 33 59.03	−0.00009	11	51.37	11	0.0043	18	47.44	11	Ori 1
53	36741	6.58	B2	5 33 57.576	1 24 27.49	−0.00015	09	45.90	10	−0.0059	17	41.66	10	Ori 1
54	36895	6.74	B2	5 35 12.798	9 36 47.91	0.00031	15	55.00	11	−0.0056	14	50.64	11	Ori 1

Table (Continued)

No.	*HD, BD*	*V*	*Sp*	$\alpha_{(J2000.0)}$	$\delta_{(J2000.0)}$	μ_α	ϵ_{μ_α}	t_α	n_α	μ_δ	ϵ_{μ_δ}	t_δ	n_δ	*Ass*
55	36959	5.67	B1	5 35 01.005	−6 00 33.58	−0.00086	21	58.76	12	−0.0010	12	42.97	12	Ori 1
56	36690	4.79	B0	5 32 02.683	−6 00 07.52	0.00024	09	47.01	13	−0.0019	14	44.87	14	Ori 1
57	37016	6.25	B9	5 35 22.312	−4 25 27.73	−0.00011	14	44.29	4	−0.0136	33	38.34	4	Ori 1
58	37017	6.57	B2	5 35 21.864	−4 29 39.18	0.00033	13	49.25	7	0.0052	28	48.81	7	Ori 1
59	37018	4.58	B1	5 35 23.156	−4 50 17.94	0.00003	09	47.02	14	0.0011	12	44.75	15	Ori 1
60	37040	6.30	B2	5 35 31.068	−4 21 50.73	0.00025	02	45.00	4	−0.0062	27	41.59	4	Ori 1
61	37042	6.40	B1	5 35 26.411	−5 25 01.05	0.00030	13	35.22	5	0.0004	16	36.31	5	Ori 1
62	37058	7.25	B2	5 35 33.350	−4 50 15.30	−0.00047	26	50.34	6	−0.0045	37	46.37	6	Ori 1
63	37061	6.80	B1	5 35 31.364	−5 16 02.76	−0.00043	56	38.40	4	0.0026	54	34.47	4	Ori 1
64	37129	7.18	B2	5 36 06.246	−4 25 32.93	0.00019	01	−55.22	9	0.0027	39	48.34	9	Ori 1
65	37150	6.54	B2	5 36 15.017	−5 38 52.54	−0.00014	20	50.72	9	−0.0014	23	45.97	9	Ori 1
66	37209	5.70	B2	5 36 26.935	−6 03 52.67	0.00498	31	−20.42	12	−0.0073	19	43.47	11	Ori 1
67	37232	6.11	B2	5 37 19.311	8 57 06.83	−0.00032	14	52.35	13	0.0010	24	47.00	13	Ori 1
68	37303	6.04	B2	5 37 27.353	−5 56 18.19	0.00035	22	41.66	5	−0.0077	12	38.63	5	Ori 1
69	37334	7.19	B2	5 37 36.757	−4 56 03.01	0.00024	17	43.60	6	−0.0033	11	39.13	6	Ori 1
70	37356	6.18	B2	5 37 53.392	−4 48 50.58	−0.00019	17	48.55	8	0.0041	14	44.30	8	Ori 1
71	37397	6.85	B2	5 38 13.728	−1 10 09.00	−0.00016	15	50.40	12	−0.0047	20	46.67	12	Ori 1
72	37481	5.95	B2	5 38 37.970	−6 34 26.17	0.00012	15	51.96	10	−0.0024	19	47.89	11	Ori 1
73	37479	6.53	B2	5 38 47.203	−2 35 40.53	0.00011	10	54.68	7	0.0118	40	00.00	6	Ori 1
74	37744	6.22	B2	5 40 37.287	−2 49 30.98	0.00034	15	51.14	9	0.0046	36	39.84	8	Ori 1
75	37756	4.93	B2	5 40 50.722	−1 07 43.74	−0.00006	08	47.84	14	−0.0043	21	42.52	14	Ori 1
76	37776	6.99	B2	5 40 56.359	−1 30 25.88	−0.00059	27	54.53	11	0.0022	22	49.51	12	Ori 1
77	37903	7.82	B2	5 41 38.389	−2 15 32.74	−0.00019	26	53.30	12	−0.0058	48	46.62	11	Ori 1
78	39291	5.35	B2	5 51 21.983	−7 31 04.84	−0.00001	10	50.91	13	0.0009	19	43.20	13	Ori 1
79	39777	6.56	B2	5 54 34.687	−4 03 52.67	−0.00022	14	45.69	7	0.0011	18	44.07	7	Ori 1