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A POSITION CATALOGUE OF 146 HLS STARS AND 78 RADIO STARS OBSERVED WITH THE BELGRADE MERIDIAN CIRCLE

S. Sadžakov, M. Dačić and Z. Cvetković

Astronomical Observatory, Volgina 7, 11050 Belgrade, Yugoslavia

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SUMMARY: The authors present an observational catalogue containing the positions of 146 high-luminosity stars, as well as the optical counterparts of 78 radio stars worked out by diffrential method in the FK5 system. The (O – C) corrections for the positions of 186 fundamental stars used in the determination of the instrument parameters are also presented. The star positions are derived from the observations with the Belgrade Large Meridian Circle during 1991–1993.

1. INTRODUCTION

Following the IAU C-11 (Patras) resolution (IAU Inform. Bull., 1983) the steps have been undertaken to observe high-luminosity stars (HLS). There has been at our disposal a list containing 281 stars obtained through the courtesy of the Pulkovo Observatory. These stars are of special interest to studies of the motions in the Galaxy. If the meridian observations of these stars (Cepheides, O, B type stars etc) were repeated, a possibility of enhancing the accuracy of their positions and proper motions would be offered. Consequently, a more accurate calculation of the space velocities and a more detailed study of the kinematics of HLS would be attained. We selected 147 stars from the list.

In view of a relatively small number of stars in the observational programme we added the radio stars from a list of the Bordeaux Observatory. This list contains 109 objects meant for the meridian observations since their optical positions are necessary for as tight as possible linking of the FK5 to the extragalactic reference frame. These radio stars have belonged to a more comprehensive star list observed with the Automatic Meridian Circle at Bordeaux (Requieme *et al.*, 1991) and they have been also included in the HIPPARCOS project. We chose 86 radio stars from the list. The determination of the optical positions of radio stars is of interest to us also due to the facts that we have just finished an observational catalogue of star in the vicinity of radio sources (Sadžakov *et al.*, 1991) and have prepared a new programme concerning these stars in the vicinity of radio sources.

2. THE OBSERVATIONAL RESULTS

The stars mentioned above were observed with the Large Meridian Circle of the Belgrade Observatory (d = 190 mm, f = 2578 mm) in the period 1991–1993. The total number of observational series is 30. It should be noted that the first two were observed in 1989. Out of the 233 programme stars nine are not included in the catalogue because they were observed only once.

The treatment of the observations is carried out as usually (Sadžakov *et al.*, 1992). First we derived the instrument parameters from the observations of the FK5 stars: n and $(u + m)$ for the right ascension and the equator point M_o for the declination. In the next step the apparent places of the programme stars are calculated and reduced to the equator and equinox J2000.0 (without proper motion). The results are presented in Catalogues 1 and 2.

Catalogue 1 contains the positions of 224 programme stars in the FK5 system for the equator and equninox J2000.0 and for the given observational epoch. The numbers 1–280 denote the HLS stars, whereas the numbers over 1000 denote the radio stars.

In Catalogue 2 are presented the individual corrections to the right ascensions and declinations for 186 FK5 stars calculated from the (O – C) differences associated with the determination of the instrument parameters.

The mean epoch of observation for the programme stars is 1992.00 . On the basis of the individual deviations from the mean value we calculated the root-mean-square error of a single observation. For the programme stars it is $\varepsilon_\alpha \cos\delta = \pm 0^s.025$ and $\varepsilon_\delta = \pm 0''.32$. For the fundamental stars the corresponding error is $\varepsilon_\alpha \cos\delta = \pm 0^s.022$ and $\varepsilon_\delta = \pm 0''.30$.

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CATALOGUE OF POSITIONS OF HIGH LUMINOSITY STARS AND RADIO STARS

Explanation:

N	–	star number in the catalogue
BD	–	BD number
m	–	visual magnitude
R.A.	–	right ascension (hour, minute and second of time) for the equator and equinox J2000.0 and for the corresponding epoch of observation
$\varepsilon_\alpha \cos\delta$	–	r.m.s. error of right ascension (second of time)
Ep	–	mean epoch of observations for right ascension
n_1	–	number of observations in right ascension
DEC	–	declination (degree, minute and second of arc) for the equator and equinox J2000.0 and for the corresponding epoch of observation
ε_δ	–	r.m.s. error of declinations (second of arc)
Ep	–	mean epoch of observations for declination
n_2	–	number of observations in declination

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
1	62 02356	6.2	0 03 25.687	.013	1992.99	4	63 38 25.41	.20	1992.99	4
2	61 02585	8.2	0 04 03.767	.006	1992.99	4	62 13 18.33	.23	1992.99	4
1301	−6 06357	4.7	0 05 20.158	.018	1992.99	4	−5 42 27.63	.17	1992.99	4
4	58 00011	6.7	0 10 34.669	.013	1992.99	4	59 40 25.36	.20	1992.99	4
5	57 00028	7.1	0 11 37.090	.007	1992.99	4	58 12 42.88	.14	1992.99	4
6	55 00027	9.1	0 14 28.320	.013	1992.99	4	56 15 10.74	.18	1992.99	4
1102	8 00019	5.9	0 14 58.741	.008	1992.99	4	8 49 16.01	.10	1992.99	4
1473	−13 00060	6.4	0 22 51.616	.020	1992.99	4	−12 12 34.07	.12	1992.99	4
8	59 00065	8.9	0 29 58.529	.013	1992.99	4	60 12 42.57	.22	1992.99	4
9	62 00102	4.2	0 32 59.880	.011	1992.99	4	62 55 53.82	.18	1992.99	4
1302	−4 00062	5.2	0 35 14.608	.023	1992.99	4	−3 35 32.41	.17	1992.99	4
1103		8.7	0 43 28.440	.009	1992.99	4	64 45 36.44	.16	1992.99	4
1330	23 00106	4.3	0 47 20.386	.020	1992.99	4	24 16 01.36	.14	1992.99	4
10	63 00097	8.5	0 49 53.220	.009	1992.99	4	64 38 16.50	.11	1992.99	4
11	58 00119	7.6	0 50 27.857	.008	1992.99	4	59 40 18.53	.23	1992.99	4
13	62 00160	6.9	0 51 25.943	.008	1992.99	4	63 46 52.96	.15	1992.99	4
14	55 00191	7.8	0 52 49.071	.009	1992.99	4	56 37 40.35	.13	1992.99	4
15	62 00175	7.7	0 58 26.725	.014	1992.99	4	63 42 50.16	.12	1992.99	4
16	61 00200	8.2	1 04 03.765	.015	1993.77	4	61 48 37.09	.15	1993.77	4
17	61 00223	8.4	1 12 32.668	.013	1993.77	4	61 53 09.00	.33	1993.77	4
1303	−3 00172	5.5	1 16 36.325	.015	1993.77	4	−2 30 00.51	.14	1993.77	4
18	57 00257	6.9	1 19 51.734	.016	1993.77	4	58 12 29.08	.16	1993.77	4
1304	6 00211	7.3	1 22 56.751	.012	1993.77	4	7 25 08.21	.14	1993.77	4
1106	22 00226	6.1	1 25 35.641	.016	1993.77	4	23 30 41.97	.12	1993.77	4
19	59 00251	7.9	1 27 26.359	.013	1993.77	4	60 17 03.53	.22	1993.77	4
20	62 00259	7.5	1 31 18.019	.020	1993.77	4	63 20 50.76	.08	1993.77	4
21	60 00279	9.1	1 36 25.196	.017	1993.77	4	60 58 50.49	.16	1993.77	4
22	55 00375	7.4	1 39 42.373	.014	1993.77	4	55 47 03.34	.13	1993.77	4
23	60 00336	9.1	1 46 10.341	.018	1993.77	4	61 26 31.28	.17	1993.77	4
24	59 00318	7.5	1 46 56.468	.013	1993.77	4	60 40 10.82	.18	1993.77	4
25	57 00399	7.4	1 48 35.027	.006	1993.77	4	58 27 28.52	.20	1993.77	4
27	63 00274	5.6	2 03 00.202	.016	1993.77	4	64 23 23.20	.18	1993.77	4
29	64 00295	7.5	2 08 45.378	.017	1993.77	4	65 02 13.48	.24	1993.77	4
1305	6 00330	8.8	2 08 55.148	.015	1993.77	4	7 17 04.31	.39	1993.77	4
33	58 00396	8.1	2 12 57.168	.016	1993.77	4	59 32 16.98	.18	1993.77	4
38	63 00315	7.1	2 18 44.668	.008	1993.77	4	64 25 28.98	.11	1993.77	4
1003	−3 00353	2.0	2 19 20.778	.019	1993.77	4	−2 58 36.56	.14	1993.77	4
45	58 00455	9.2	2 22 10.597	.015	1993.77	4	59 32 58.52	.05	1993.77	4
48	55 00612	6.2	2 25 16.041	.003	1993.77	4	56 36 35.76	.23	1993.77	4
51	57 00568	7.2	2 26 45.682	.015	1993.77	4	57 40 44.21	.22	1993.77	4

continued

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
52	57 00582	7.0	2 31 53.308	.014	1993.77	4	57 41 50.95	.13	1993.77	4
55	59 00513	8.3	2 34 47.981	.010	1993.77	4	60 33 08.00	.10	1993.77	4
58	60 00541	7.7	2 40 44.950	.017	1993.77	4	61 16 56.28	.13	1993.77	4
59	57 00620	8.8	2 43 38.399	.008	1993.77	4	57 49 42.21	.15	1993.77	4
1450	69 00179	6.3	2 48 55.526	.011	1993.77	4	69 38 02.57	.18	1993.77	4
63	59 00552	7.1	2 51 07.921	.009	1993.77	4	60 25 03.56	.11	1993.77	4
65	63 00367	7.7	2 55 21.010	.013	1993.77	4	64 09 27.11	.20	1993.77	4
1109	3 00419	2.8	3 02 16.735	.021	1993.77	4	4 05 22.92	.14	1993.77	4
1110	40 00673	2.9	3 08 10.189	.014	1993.77	4	40 57 18.99	.12	1993.77	4
66	59 00609	7.1	3 14 05.362	.010	1993.77	4	59 33 46.90	.13	1993.77	4
1112	28 00532	6.5	3 26 35.472	.010	1993.77	4	28 42 55.70	.13	1993.77	4
67	59 00660	4.2	3 29 04.030	.013	1993.77	4	59 56 23.64	.15	1993.77	4
1451	−3 00570	8.2	3 32 25.146	.017	1993.77	4	−3 18 48.40	.17	1993.77	4
1113	0 00616	6.1	3 36 47.298	.012	1993.77	4	0 35 16.51	.19	1993.77	4
68	31 00642	3.8	3 44 19.073	.016	1993.77	4	32 17 17.69	.16	1993.77	4
69	58 00663	8.6	3 54 21.650	.015	1993.77	3	58 39 11.58	.11	1993.77	3
71	52 00726	6.7	3 55 38.238	.010	1993.77	3	52 38 28.80	.67	1993.77	3
72	35 00775	4.0	3 58 57.933	.006	1993.77	4	35 47 26.40	.14	1993.77	4
73	55 00845	8.7	4 04 24.515	.013	1993.77	3	56 00 18.54	.19	1993.77	3
75	56 00884	8.0	4 09 23.358	.010	1993.77	4	57 05 27.57	.14	1993.77	4
1115	9 00549	6.2	4 13 34.481	.013	1993.77	4	10 12 46.53	.19	1993.77	4
1116	49 01150	4.6	4 18 14.570	.012	1993.77	4	50 17 43.44	.12	1993.77	4
1307	−6 00875	6.3	4 20 38.601	.013	1993.77	4	−6 14 44.00	.15	1993.77	4
77	53 00765	9.3	4 25 24.542	.008	1993.77	4	53 24 55.21	.39	1993.77	4
78	18 00661	7.1	4 37 14.923	.006	1993.77	4	18 32 35.22	.18	1993.77	4
1308	−10 00993	9.6	4 43 45.823	.017	1993.77	4	−10 40 57.97	.10	1993.77	4
1119	18 00734	6.8	4 48 42.027	.012	1993.77	4	18 42 36.13	.06	1993.77	4
81	66 00358	4.3	4 54 03.000	.011	1993.37	4	66 20 33.47	.11	1993.37	4
82	35 00930	6.1	4 56 20.168	.012	1993.37	4	36 10 06.46	.17	1993.37	4
83	39 01138	7.7	5 01 23.255	.010	1992.96	4	39 57 36.64	.14	1992.96	4
1332	58 00805	6.4	5 06 12.211	.011	1992.96	4	59 01 17.02	.14	1992.96	4
84	42 01201	9.1	5 12 39.240	.010	1992.96	4	42 49 55.89	.12	1992.96	4
85	37 01146	6.8	5 20 43.158	.011	1992.96	4	37 26 18.26	.10	1992.96	4
86	42 01295	9.6	5 28 39.311	.014	1992.96	4	42 26 15.76	.11	1992.96	4
88	34 01077	7.8	5 31 45.454	.016	1992.18	4	34 52 54.90	.14	1992.18	4
1333		6.5	5 35 21.808	.014	1992.18	4	−4 29 35.82	.17	1992.18	4
1452	−4 01183	6.5	5 35 21.826	.017	1992.18	4	−4 29 36.88	.10	1992.18	4
95	−2 01338	1.8	5 40 45.563	.016	1992.18	4	−1 56 33.83	.12	1992.18	4
97	28 00902	8.4	5 48 41.423	.014	1992.18	4	28 19 28.91	.14	1992.18	4
98	31 01115	8.2	5 50 28.851	.012	1992.18	4	31 03 53.89	.13	1992.18	4

continued

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
1335	20 01162	4.6	5 54 23.138	.010	1992.18	4	20 16 35.07	.14	1992.18	4
1127	7 01055	0.6	5 55 10.286	.014	1992.18	4	7 24 25.23	.12	1992.18	4
102	25 01052	4.8	5 57 59.638	.013	1992.18	4	25 57 14.12	.14	1992.18	4
1128	45 01217	4.6	5 59 56.033	.013	1992.18	4	45 56 12.48	.10	1992.18	4
104	23 01149	7.4	6 01 07.651	.013	1992.18	4	23 18 18.02	.18	1992.18	4
105	28 01008	7.5	6 06 06.589	.012	1992.18	4	28 56 05.55	.17	1992.18	4
107	20 01284	7.6	6 09 39.561	.009	1992.18	4	20 29 15.49	.17	1992.18	4
110	20 01302	6.8	6 11 23.202	.009	1992.18	4	20 54 19.68	.10	1992.18	4
112	23 01275	6.2	6 16 58.697	.010	1992.18	4	23 44 26.74	.12	1992.18	4
113	22 01273	8.8	6 18 31.735	.014	1992.18	4	22 40 44.88	.13	1992.18	4
115	14 01259	8.4	6 22 13.181	.017	1992.18	4	14 40 39.74	.10	1992.18	4
116	19 01535	8.4	6 24 38.369	.010	1992.18	4	19 42 15.67	.14	1992.18	4
119	14 01296	6.6	6 27 15.879	.013	1992.18	4	14 53 20.35	.12	1992.18	4
121	4 01291	8.2	6 31 20.967	.008	1992.18	4	4 50 03.52	.19	1992.18	4
125	4 01318	8.3	6 33 50.927	.012	1992.18	4	4 31 31.75	.12	1992.18	4
129	6 01303	6.9	6 36 25.963	.015	1992.18	4	6 05 00.27	.16	1992.18	4
131	5 01334	6.2	6 37 52.759	.013	1992.18	4	4 57 24.57	.07	1992.18	4
132	10 01220	4.7	6 40 58.740	.010	1992.18	4	9 53 44.53	.13	1992.18	4
136	−2 01885	7.7	7 01 27.081	.012	1992.18	4	−3 07 03.57	.14	1992.18	4
137	20 01687	3.7	7 04 06.553	.015	1992.18	4	20 34 12.55	.17	1992.18	4
138	−12 01788	6.5	7 06 35.839	.013	1992.18	4	−12 23 38.67	.18	1992.18	4
140	−16 01802	6.0	7 09 33.332	.009	1992.18	4	−16 14 04.91	.10	1992.18	4
141	−11 01867	8.1	7 16 37.624	.014	1992.18	4	−11 29 15.45	.16	1992.18	4
1454	−16 01898	5.4	7 19 28.056	.016	1992.18	4	−16 23 41.43	.16	1992.18	4
1311	−4 01915	8.8	7 20 48.519	.017	1992.18	4	−5 15 36.53	.18	1992.18	4
1338	15 01573	9.0	7 27 24.116	.007	1992.18	4	15 39 34.69	.14	1992.18	4
1455	−11 01951	5.9	7 27 51.705	.012	1992.18	4	−11 33 24.24	.10	1992.18	4
1339	−14 01971	5.1	7 33 47.957	.014	1992.18	4	−14 31 25.80	.11	1992.18	4
1134	29 01590	4.3	7 43 18.659	.018	1992.19	2	28 53 02.38	.22	1992.19	2
1136	57 01118	6.5	8 02 35.837	.013	1992.18	4	57 16 25.50	.17	1992.18	4
149	10 02166	3.8	10 32 48.681	.015	1992.83	4	9 18 24.22	.18	1992.83	4
1462	22 02715	6.0	14 32 32.548	.017	1992.44	2	22 15 35.94	.25	1992.44	2
1463	−7 03938	5.4	15 00 58.326	.018	1991.82	3	−8 31 08.70	.10	1991.82	3
1155	48 02259	4.9	15 03 47.763	.011	1991.82	3	47 39 15.17	.14	1991.82	3
1319	−28 11366	7.5	15 28 58.651	.015	1991.75	4	−28 52 00.51	.10	1991.75	4
1157	34 02750	5.4	16 14 40.958	.008	1991.50	4	33 51 32.66	.13	1991.50	4
1159	−26 11359	3.1	16 29 24.645	.008	1991.51	5	−26 25 54.71	.34	1991.51	5
1442	82 00498	4.4	16 45 57.999	.008	1991.52	4	82 02 13.60	.15	1991.52	4
1160	−8 04352	9.1	16 55 29.364	.015	1991.79	4	−8 20 03.42	.13	1991.79	4
150	−26 11880	7.4	17 06 05.467	.008	1991.79	4	−26 34 49.71	.14	1991.79	4

continued

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
1467	49 02596	8.5	17 10 25.533	.011	1991.79	4	48 57 55.99	.28	1991.79	4
151	−10 04493	7.8	17 26 17.374	.015	1991.57	4	−10 59 34.32	.13	1991.57	4
1468	74 00717	7.1	17 32 41.247	.012	1991.57	4	74 13 37.32	.10	1991.57	4
152	−27 11930	4.6	17 47 33.571	.015	1991.57	4	−27 49 50.45	.18	1991.57	4
154	−24 13615	6.2	17 54 53.974	.014	1991.57	4	−24 53 13.19	.18	1991.57	4
1443	15 03311	7.1	17 58 06.974	.010	1991.57	4	15 08 22.14	.15	1991.57	4
156	2 03458	4.0	18 00 38.732	.008	1991.57	4	2 55 54.39	.13	1991.57	4
1205	−24 13814	5.9	18 03 52.525	.024	1991.57	4	−24 21 38.68	.10	1991.57	4
161	−14 04880	7.9	18 05 58.825	.011	1991.57	4	−14 11 54.42	.18	1991.57	4
163	−20 05027	7.2	18 11 57.079	.011	1991.57	4	−20 25 28.05	.09	1991.57	4
166	−20 05054	5.4	18 15 12.912	.017	1991.57	4	−20 43 41.43	.16	1991.57	4
169	−18 04886	6.5	18 17 28.543	.008	1991.57	4	−18 27 48.54	.17	1991.57	4
175	−18 04926	5.8	18 21 22.929	.012	1991.57	4	−18 51 35.18	.18	1991.57	4
176	−13 04958	8.1	18 23 17.609	.013	1991.57	4	−13 35 38.44	.11	1991.57	4
1164	−12 05045	8.8	18 25 31.515	.010	1991.54	3	−12 41 23.25	.15	1991.54	3
178	−19 05047	6.4	18 31 53.253	.017	1991.61	2	−19 07 30.69	.11	1991.61	2
179	−18 04994	6.8	18 33 10.041	.017	1991.61	2	−18 22 06.31	.15	1991.61	2
180	33 03154	5.4	18 36 37.382	.009	1990.98	3	33 28 08.15	.12	1990.98	3
181	−0 03523	7.8	18 38 01.693	.014	1990.98	3	−0 23 08.55	.17	1990.98	3
182	−20 05253	7.8	18 45 15.706	.014	1990.71	4	−20 38 51.47	.15	1990.71	4
1165	33 03223	3.9	18 50 04.821	.007	1990.90	5	33 21 46.01	.08	1990.90	5
184	9 03928	8.6	18 55 23.172	.012	1990.90	5	9 20 48.56	.14	1990.90	5
185	−19 05242	7.0	18 57 35.772	.010	1990.71	4	−19 09 11.65	.10	1990.71	4
187	17 03799	5.4	18 58 14.768	.013	1991.04	3	17 21 39.50	.20	1990.71	4
188	1 03877	8.6	19 04 39.483	.012	1990.71	4	1 18 22.14	.19	1990.71	4
1469	49 02929	6.5	19 05 09.885	.012	1990.71	4	49 55 22.72	.14	1990.71	4
189	3 03902	7.4	19 07 18.150	.012	1990.71	4	3 26 34.63	.12	1990.71	4
190	1 03899	7.1	19 08 13.799	.014	1990.71	4	1 17 54.40	.27	1990.71	4
1321	52 02350	5.9	19 08 25.895	.007	1991.05	3	52 25 33.17	.20	1991.05	3
1474	19 03975	6.5	19 18 48.370	.011	1990.71	4	19 36 36.78	.17	1990.71	4
1207	−20 05516	6.9	19 22 40.220	.011	1990.71	4	−20 38 32.99	.14	1990.71	4
193	18 04085	6.9	19 27 26.546	.012	1990.71	4	18 17 44.53	.11	1990.71	4
194	−7 04968	6.5	19 29 21.452	.008	1990.71	4	−7 02 39.04	.14	1990.71	4
196	20 04200	6.8	19 36 37.680	.010	1990.71	4	20 19 58.06	.15	1990.71	4
1208	−6 05221	8.3	19 39 38.756	.015	1990.71	4	−6 03 48.52	.17	1990.71	4
198	20 04218	6.5	19 40 28.318	.013	1990.71	4	20 28 37.94	.11	1990.71	4
199	23 03745	8.7	19 42 49.622	.006	1990.71	4	23 27 47.82	.13	1990.71	4
200	28 03460	6.9	19 44 48.732	.010	1990.71	4	29 15 53.12	.08	1990.71	4
203	23 03767	7.8	19 45 54.147	.013	1990.71	4	24 05 45.21	.15	1990.71	4
205	24 03881	9.1	19 47 02.728	.012	1990.71	4	24 50 56.43	.09	1990.71	4

continued

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
206	33 03602	6.5	19 48 50.627	.020	1990.71	4	33 26 14.53	.17	1990.71	4
207	27 03536	6.7	19 51 30.977	.012	1990.71	4	27 27 37.34	.15	1990.71	4
210	46 02793	5.6	19 51 59.062	.003	1990.71	4	47 01 38.43	.20	1990.71	4
212	16 04067	5.6	19 56 01.276	.011	1990.71	4	16 38 05.29	.16	1990.71	4
1169	34 03815	8.6	19 58 21.744	.012	1990.71	4	35 12 07.09	.21	1990.71	4
213	21 04027	6.5	20 02 22.189	.013	1990.71	4	22 09 05.79	.09	1990.71	4
215	33 03718	9.0	20 04 26.551	.011	1990.71	4	34 06 44.56	.12	1990.71	4
218	35 03953	6.8	20 05 57.334	.012	1990.71	4	35 47 17.98	.11	1990.71	4
220	42 03599	8.0	20 08 07.093	.010	1990.71	4	42 36 22.16	.17	1990.71	4
1170	37 03821	7.4	20 12 06.489	.012	1991.23	4	38 21 17.68	.11	1991.23	4
223	39 04096	7.5	20 14 26.128	.013	1991.23	4	40 19 45.51	.13	1991.23	4
1171	39 04115	6.6	20 17 25.183	.009	1991.23	4	39 35 36.46	.18	1991.23	4
1173	43 03571	6.8	20 20 28.039	.008	1991.23	4	43 51 14.57	.11	1991.23	4
227	40 04150	7.0	20 23 18.093	.010	1991.23	4	40 45 32.94	.10	1991.23	4
228	40 04165	7.5	20 26 21.511	.017	1991.23	4	41 22 45.96	.15	1991.23	4
1211	−21 05735	9.0	20 29 36.973	.010	1991.23	4	−21 07 35.43	.14	1991.23	4
229	43 03630	7.1	20 30 34.964	.015	1991.23	4	44 18 54.05	.14	1991.23	4
1179		9.0	20 33 25.948	.016	1991.23	4	41 18 50.65	.15	1991.23	4
231	35 04234	6.4	20 43 24.205	.012	1991.98	4	35 35 16.93	.13	1991.98	4
232	45 03291	4.8	20 48 56.320	.010	1991.98	4	46 06 49.42	.19	1991.98	4
235	48 03242	7.0	20 53 52.355	.011	1991.98	4	49 31 59.48	.13	1991.98	4
236	46 03111	5.7	20 55 49.881	.009	1991.98	4	47 25 04.52	.15	1991.98	4
1445	27 03952	7.5	21 02 25.831	.009	1992.53	4	27 48 26.14	.14	1992.53	4
239	39 04423	9.6	21 04 16.675	.023	1992.46	3	39 58 16.91	.21	1992.46	3
240	30 04318	5.8	21 06 30.240	.009	1992.53	4	31 11 04.97	.11	1992.53	4
241	43 03842	7.8	21 12 28.247	.011	1992.53	4	44 31 54.66	.13	1992.53	4
242	43 03877	5.0	21 18 27.142	.009	1992.53	4	43 56 43.44	.15	1992.53	4
243	44 03832	7.0	21 29 06.220	.007	1992.53	4	44 55 22.61	.06	1992.53	4
244	56 02589	7.4	21 31 38.407	.012	1992.53	4	57 30 08.97	.05	1992.53	4
245	56 02617	5.6	21 38 57.673	.010	1992.53	4	57 29 20.31	.18	1992.53	4
1323	−14 06102	5.3	21 41 32.957	.008	1992.53	4	−14 02 47.54	.14	1992.53	4
246	61 02193	5.9	21 44 53.311	.014	1992.53	4	62 27 37.49	.15	1992.53	4
1182	11 04673	6.3	21 51 01.962	.011	1992.76	4	12 37 31.58	.20	1992.76	4
247	42 04233	9.0	21 51 40.974	.012	1992.76	4	43 08 02.75	.15	1992.76	4
248	55 02644	5.8	21 54 53.252	.012	1992.76	4	56 36 40.89	.23	1992.76	4
1446	62 02007	7.6	21 56 39.133	.007	1992.76	4	63 37 32.35	.17	1992.76	4
1183	43 04112	8.8	22 01 30.698	.007	1992.76	4	43 53 25.51	.07	1992.76	4
1184	27 04243	7.3	22 03 59.505	.011	1992.76	4	28 20 54.12	.18	1992.76	4
1324	46 03572	6.5	22 04 56.575	.012	1992.76	4	47 14 04.52	.17	1992.76	4
254	61 02246	5.1	22 05 08.805	.010	1992.76	4	62 16 47.16	.17	1992.76	4

continued

N	BD	m	R.A.	$\varepsilon_\alpha \cos\delta$	E_p	n_1	DEC	ε_δ	E_p	n_2
1185	45 03813	6.5	22 08 40.946	.013	1992.76	4	45 44 30.85	.14	1992.76	4
257	58 02402	5.0	22 11 30.736	.006	1992.76	4	59 24 51.62	.08	1992.76	4
259	56 02735	8.6	22 13 16.874	.008	1992.76	4	57 39 58.32	.13	1992.76	4
260	52 03167	8.6	22 16 59.941	.008	1992.76	4	53 39 02.56	.15	1992.76	4
261	56 02755	6.2	22 20 06.244	.008	1992.76	4	56 55 04.30	.09	1992.76	4
262	54 02756	7.9	22 23 01.544	.010	1992.76	4	55 13 59.70	.15	1992.76	4
265	64 01664	5.5	22 27 05.366	.011	1992.76	4	65 07 55.37	.14	1992.76	4
1325	48 03747	6.5	22 30 06.448	.012	1992.76	4	49 21 22.95	.11	1992.76	4
1186	−21 06267	9.1	22 38 45.345	.011	1992.77	3	−20 37 14.95	.15	1992.77	3
1187	54 02846	8.8	22 44 07.572	.009	1992.76	4	55 35 21.42	.16	1992.76	4
270	58 02478	9.6	22 46 24.730	.009	1992.76	4	59 26 32.48	.13	1992.76	4
1189	16 04831	5.7	22 53 02.506	.009	1992.76	4	16 50 27.92	.12	1992.76	4
275	58 02511	8.3	22 56 08.603	.010	1992.76	4	58 53 15.18	.07	1992.76	4
1191	56 02923	5.5	23 00 05.007	.011	1992.76	4	56 56 43.20	.09	1992.76	4
276	57 02689	8.3	23 05 12.938	.013	1992.76	4	58 14 30.37	.14	1992.76	4
277	52 03383	7.2	23 11 06.951	.008	1992.76	4	53 03 30.35	.17	1992.76	4
1193	1 04695	8.1	23 13 23.772	.010	1992.76	4	2 40 30.71	.11	1992.76	4
278	59 02695	8.8	23 18 04.769	.015	1992.76	4	59 51 32.59	.10	1992.76	4
279	60 02522	8.7	23 20 44.349	.005	1992.76	4	61 11 38.81	.13	1992.76	4
1195	45 04283	4.0	23 37 33.665	.006	1992.76	4	46 27 32.13	.16	1992.76	4
1196		9.2	23 44 00.545	.009	1992.76	4	61 47 22.52	.17	1992.76	4
1326	35 05110	5.9	23 49 40.959	.010	1992.76	4	36 25 31.53	.17	1992.76	4
280	61 02562	7.2	23 54 42.081	.021	1992.76	4	61 50 17.87	.16	1992.76	4
1328	20 05413	8.8	23 59 49.403	.007	1992.76	4	21 08 59.65	.16	1992.76	4

CATALOGUE OF CORRECTIONS TO THE POSITIONS

OF THE FUNDAMENTAL STARS

Explanation:

N FK5	–	FK5 number
$\Delta\alpha$	–	correction to right ascension (second of time)
$\varepsilon_\alpha \cos\delta$	–	r.m.s. error of right ascensions (second of time)
Ep	–	mean epoch of observations for right ascension
n_1	–	number of observations in right ascension
$\Delta\delta$	–	correction to declination (second of arc)
ε_δ	–	r.m.s. error of declinations (second of arc)
Ep	–	mean epoch of observations for declination
n_2	–	number of observations in declination

N FK5	$\Delta\alpha$	$\varepsilon_\alpha \cos\delta$	E_p	n_1	$\Delta\delta$	ε_δ	E_p	n_2
1	.004	.017	1992.99	4	-.03	.18	1992.99	4
1005	-.011	.011	1992.99	4	-.06	.13	1992.99	4
1009	.004	.015	1992.99	4	-.04	.09	1992.99	4
1010	-.014	.007	1992.99	4	-.01	.23	1992.99	4
1012	-.013	.012	1992.99	4	.08	.07	1992.99	4
18	-.005	.014	1992.99	4	-.08	.23	1992.99	4
21	-.005	.010	1992.99	4	.22	.15	1992.99	4
32	.007	.002	1992.99	4	.11	.22	1992.99	4
1025	.006	.009	1992.99	4	.09	.21	1992.99	4
1028	.002	.015	1993.77	4	-.13	.19	1993.77	4
1033	-.012	.009	1993.77	4	.34	.08	1993.77	4
1051	-.018	.008	1993.77	4	-.21	.20	1993.77	4
64	.004	.014	1993.77	4	-.07	.18	1993.77	4
71	.014	.007	1993.77	4	-.05	.13	1993.77	4
1059	-.011	.008	1993.77	4	-.42	.09	1993.77	4
1072	.012	.014	1993.77	4	.28	.09	1993.77	4
97	-.006	.013	1993.77	4	.22	.19	1993.77	4
104	-.011	.019	1993.77	4	.36	.13	1993.77	4
1083	-.022	.008	1993.77	4	-.02	.13	1993.77	4
109	.015	.003	1993.77	4	-.15	.09	1993.77	4
1088	-.009	.004	1993.77	4	-.03	.07	1993.77	4
114	-.002	.011	1993.77	4	-.25	.15	1993.77	4
1091	.003	.012	1993.77	4	-.10	.23	1993.77	4
1093	-.010	.008	1993.77	4	.19	.20	1993.77	4
120	.010	.002	1993.77	4	-.18	.19	1993.77	4
1099	-.002	.010	1993.77	4	-.06	.13	1993.77	4
1103	-.020	.007	1993.78	3	-.21	.06	1993.78	3
1104	-.015	.007	1993.77	4	.23	.14	1993.77	4
142	-.003	.012	1993.78	3	.20	.07	1993.78	3
150	.020	.016	1993.78	3	.18	.15	1993.77	4
1116	-.005	.009	1993.77	4	-.01	.19	1993.77	4
1118	-.003	.011	1993.77	4	-.15	.02	1993.77	4
1122	.000	.003	1993.77	4	.23	.10	1993.77	4
165	-.002	.010	1993.77	4	.05	.20	1993.77	4
1125	.012	.005	1993.77	4	-.05	.19	1993.77	4
1126	.014	.008	1993.77	4	-.33	.17	1993.77	4
181	.021	.014	1993.37	4	.03	.10	1993.37	4
184	.002	.016	1993.23	3	-.11	.08	1992.96	4
188	.015	.016	1992.70	3	-.17	.20	1992.96	4
194	-.007	.012	1992.96	4	.01	.11	1992.96	4

continued

N FK5	$\Delta\alpha$	$\varepsilon_\alpha \cos\delta$	E_p	n_1	$\Delta\delta$	ε_δ	E_p	n_2
201	.017	.009	1992.96	4	.42	.10	1992.96	4
207	-.016	.005	1992.18	4	.12	.07	1992.18	4
216	-.012	.007	1992.18	4	-.24	.08	1992.18	4
222	.002	.006	1992.18	4	.22	.05	1992.18	4
254	.014	.012	1992.18	4	-.24	.08	1992.18	4
257	.018	.008	1992.18	3	.30	.17	1992.18	4
1176	.003	.011	1992.18	4	-.16	.17	1992.18	4
1179	.023	.007	1992.18	4	.02	.20	1992.18	4
261	-.021	.009	1992.18	4	.03	.23	1992.18	4
266	.004	.006	1992.18	4	.14	.17	1992.18	4
1187	.006	.018	1992.18	4	-.08	.12	1992.18	4
1190	-.006	.006	1992.18	4	-.14	.14	1992.18	4
282	-.002	.011	1992.18	4	-.06	.23	1992.18	4
1193	-.006	.015	1992.18	4	.01	.20	1992.18	4
289	.015	.011	1992.18	4	.18	.12	1992.18	4
291	.008	.013	1992.18	4	-.23	.09	1992.18	4
295	.001	.011	1992.18	4	.11	.12	1992.18	4
296	.009	.010	1992.18	4	-.07	.19	1992.18	4
1204	-.014	.008	1992.18	4	-.02	.18	1992.18	3
1205	-.016	.010	1992.18	4	.18	.09	1992.18	4
1208	-.016	.009	1992.18	4	-.04	.25	1992.18	4
305	.007	.012	1992.18	4	-.16	.12	1992.18	4
365	-.002	.004	1992.99	3	-.21	.10	1992.99	3
366	-.017	.007	1992.99	3	.41	.08	1992.99	3
370	.010	.012	1992.99	3	-.01	.23	1992.99	3
373	.003	.005	1992.99	3	.35	.20	1992.99	3
374	-.001	.009	1992.99	3	-.01	.06	1992.99	3
378	-.013	.023	1992.99	3	.01	.17	1992.99	3
1259	-.003	.012	1992.83	4	-.07	.09	1992.83	4
379	.009	.013	1992.83	4	.03	.27	1992.83	4
381	-.002	.012	1992.83	4	.15	.15	1992.83	4
384	.018	.004	1992.83	4	-.08	.20	1992.83	4
1266	-.003	.009	1992.83	4	.08	.04	1992.83	4
1267	.015	.003	1992.83	4	-.47	.11	1992.83	4
389	-.016	.013	1992.83	4	.16	.27	1992.83	4
1270	.027	.005	1992.83	4	-.22	.10	1992.83	4
1274	-.018	.008	1992.83	4	.06	.19	1992.83	4
403	.001	.006	1992.83	4	-.15	.20	1992.83	4
407	.011	.018	1992.83	4	.06	.10	1992.83	4
409	-.021	.015	1992.83	4	.08	.17	1992.83	4

continued

N FK5	$\Delta\alpha$	$\varepsilon_\alpha \cos\delta$	E_p	n_1	$\Delta\delta$	ε_δ	E_p	n_2
412	.021	.009	1992.83	4	.09	.14	1992.83	4
413	.000	.013	1992.83	4	.18	.08	1992.83	4
416	.004	.007	1992.83	4	-.23	.14	1992.83	4
418	-.003	.009	1992.99	3	-.06	.24	1992.83	4
420	-.019	.009	1992.83	4	.03	.19	1992.83	4
422	-.008	.011	1992.83	4	-.05	.07	1992.83	4
425	.001	.008	1992.83	4	.13	.08	1992.83	4
427	-.004	.022	1992.83	4	-.08	.05	1992.83	4
1296	.012	.013	1992.83	4	-.22	.13	1992.83	4
432	-.004	.012	1992.83	4	.18	.05	1992.83	4
1365	-.002	.009	1992.44	2	.04	.23	1992.44	2
1367	-.003	.025	1992.44	2	-.02	.10	1992.44	2
522	.025	.005	1992.44	2	.08	.15	1992.44	2
526	-.005	.014	1992.44	2	.21	.09	1992.44	2
1370	.018	.008	1992.44	2	.27	.04	1992.44	2
1374	-.009	.017	1992.44	2	-.17	.04	1992.44	2
531	-.014	.020	1992.44	2	-.04	.39	1992.44	2
533	-.005	.035	1992.44	2	-.03	.23	1992.44	2
1380	.015	.000	1992.44	2	.54	.17	1992.44	2
540	-.012	.019	1992.44	2	-.20	.18	1992.44	2
545	.008	.007	1991.47	2	-.08	.10	1991.47	2
1384	-.012	.023	1991.47	2	-.41	.23	1991.47	2
1386	-.004	.025	1991.47	2	.25	.03	1991.47	2
549	-.009	.004	1991.47	2	-.25	.21	1991.47	2
551	.018	.008	1991.82	3	-.13	.24	1991.82	3
1396	-.027	.005	1991.82	3	.07	.11	1991.82	3
559	.001	.017	1991.82	3	.06	.26	1991.82	3
563	.010	.009	1991.75	4	-.14	.07	1991.75	4
1400	-.001	.011	1991.75	4	.11	.13	1991.75	4
1405	-.013	.003	1991.75	4	.31	.08	1991.75	4
570	-.006	.010	1991.75	4	-.06	.30	1991.75	4
1408	.011	.010	1991.75	4	.14	.12	1991.83	3
1409	.009	.015	1991.75	4	-.13	.14	1991.75	4
580	.009	.004	1991.75	4	.11	.12	1991.75	4
582	.008	.016	1991.70	5	-.24	.16	1991.70	5
584	-.005	.015	1991.70	5	.00	.13	1991.70	5
1414	.011	.015	1991.50	4	.11	.09	1991.50	4
591	-.008	.016	1991.50	4	.16	.12	1991.50	4
1419	-.002	.007	1991.51	3	.16	.15	1991.51	3
598	-.003	.006	1991.50	4	-.14	.10	1991.50	4

continued

N FK5	$\Delta\alpha$	$\varepsilon_\alpha \cos\delta$	E_p	n_1	$\Delta\delta$	ε_δ	E_p	n_2
1421	-.017	.010	1991.50	4	-.15	.11	1991.50	4
603	.002	.018	1991.50	4	-.29	.12	1991.50	4
605	.003	.011	1991.51	5	.07	.09	1991.51	4
608	.000	.012	1991.51	5	.04	.15	1991.51	5
1429	-.011	.011	1991.51	5	-.15	.18	1991.51	5
1432	.010	.007	1991.51	5	.08	.08	1991.51	5
622	-.005	.012	1991.52	4	-.21	.26	1991.52	4
624	-.011	.013	1991.52	4	.21	.16	1991.52	4
626	.024	.008	1991.51	5	.00	.11	1991.51	5
627	-.013	.003	1991.51	5	.06	.19	1991.51	5
1438	.006	.007	1991.79	4	-.05	.12	1991.79	4
629	.003	.019	1991.88	3	-.06	.15	1991.79	4
633	-.006	.011	1991.79	4	.24	.14	1991.79	4
634	.002	.019	1991.79	4	.14	.11	1991.79	4
635	-.002	.017	1991.79	4	-.36	.08	1991.79	4
636	.005	.010	1991.79	4	.07	.19	1991.79	4
641	.009	.013	1991.79	4	.15	.10	1991.79	4
1454	.010	.011	1991.88	3	-.23	.13	1991.79	4
1460	-.016	.006	1991.57	4	-.22	.16	1991.57	4
655	.012	.009	1991.58	3	.02	.04	1991.57	4
656	-.005	.015	1991.57	4	-.08	.17	1991.57	4
663	.004	.009	1991.57	4	.12	.12	1991.57	4
665	.002	.018	1991.54	3	-.15	.18	1991.57	4
1466	-.008	.019	1991.57	4	.17	.16	1991.57	4
680	.008	.005	1991.57	4	-.13	.14	1991.57	4
1472	-.011	.016	1991.57	4	.12	.21	1991.57	4
682	-.006	.003	1991.57	4	.08	.15	1991.57	4
1479	.008	.015	1991.57	4	.10	.13	1991.57	4
1480	.024	.014	1991.61	2	-.42	.20	1991.61	2
1483	-.016	.010	1991.61	2	.09	.27	1991.61	2
1486	.005	.013	1991.16	4	.22	.08	1991.16	4
703	-.002	.012	1991.19	4	.14	.17	1991.19	4
1491	-.016	.012	1990.70	4	.14	.19	1990.70	4
1495	.014	.005	1989.73	2	.01	.51	1989.73	2
1500	-.003	.004	1991.04	3	.06	.13	1991.04	3
724	.012	.003	1990.39	3	-.19	.13	1990.71	4
1503	.001	.012	1990.71	4	.01	.10	1990.71	4
732	.001	.014	1991.04	3	-.12	.19	1991.04	3
1511	.008	.010	1990.71	4	-.13	.15	1990.71	4
756	-.002	.009	1990.93	5	.00	.07	1990.93	5

continued

N FK5	$\Delta\alpha$	$\varepsilon_\alpha \cos\delta$	E_p	n_1	$\Delta\delta$	ε_δ	E_p	n_2
1539	.012	.012	1991.23	4	.06	.18	1991.23	4
777	-.010	.002	1991.23	4	.02	.13	1991.23	4
782	.002	.007	1991.73	3	.11	.12	1991.98	4
1547	.011	.013	1991.98	4	-.07	.19	1991.98	4
789	-.006	.014	1992.15	5	.23	.15	1992.15	5
794	-.011	.012	1992.53	4	-.08	.15	1992.53	4
800	.008	.016	1992.46	3	-.07	.19	1992.53	4
1561	-.008	.013	1992.53	4	-.17	.17	1992.53	4
806	-.006	.012	1992.53	4	.26	.10	1992.53	4
1568	.008	.008	1992.53	4	-.17	.11	1992.53	4
1570	.015	.007	1992.53	4	.19	.13	1992.53	4
817	-.019	.007	1992.46	3	-.26	.15	1992.53	4
1575	-.005	.006	1992.57	5	-.05	.16	1992.57	5
850	-.003	.012	1992.76	4	.32	.20	1992.76	4
1596	.008	.019	1992.76	4	.08	.04	1992.76	4
862	.015	.005	1992.76	4	-.51	.09	1992.76	4
1602	-.003	.012	1992.76	4	-.09	.15	1992.76	4
1604	-.006	.011	1992.76	4	.22	.11	1992.76	4
1608	-.003	.012	1992.76	4	.00	.22	1992.76	4
1613	.003	.010	1992.76	4	.13	.07	1992.76	4
1614	.005	.009	1992.76	4	.05	.18	1992.76	4
1616	-.014	.009	1992.76	4	.09	.21	1992.76	4
892	.016	.010	1992.76	4	.08	.14	1992.76	4
1623	.012	.007	1992.76	4	-.33	.15	1992.76	4
1629	.000	.009	1992.76	4	-.07	.12	1992.76	4
1630	-.005	.009	1992.96	5	-.02	.12	1992.96	5

КАТАЛОГ ПОЛОЖАЈА 146 HLS ЗВЕЗДА И 78 РАДИО-ЗВЕЗДА ПОСМАТРАНИХ БЕОГРАДСКИМ МЕРИДИЈАНСКИМ КРУГОМ

С. Саџаков, М. Дачић и З. Цветковић

Астрономска опсерваторија, Волгина 7, 11050 Београд, Југославија

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Оригинални научни рад

Овај рад представља посматрачки каталог у коме се дају положаји 146 звезда високе луминозности (HLS) и оптички положаји 78 радио–звезда одређени диференцијалном методом у систему FK5. Такође су приложене (O – C) поправке положаја 186 фундаменталних звезда које су коришћене за одређивање параметара инструмента. Положаји су добијени из посматрања звезда на Београдском меридијанском кругу у периоду 1991–1993. година.