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Tables 4 to 11 from : Proper motions of the hot subdwarfs

The kinematic population membership of the sdB ⋆

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⋆ Based on observations made with the Carlsberg Automatic Meridian Circle operated on the island of La Palma by the Copenhagen University Observatory, Royal Greenwich Observatory and Real Instituto y Observatorio de la Armada en San Fernando.

Table 4. Hot subdwarf astrometry results. From the observations at the CAMC coordinates in epoch J2000.0 are given (coloumns 1-6). Proper motions have been calculated using the positions retrieved from the Astrographic Catalogue. Proper motions calculated by using a digitized version of the POSS, and the Guide Star Catalog are also given, when available. Double entries, such as for the star at (01 19 29.04 +24 25 31.86) gives first the values from the CAMC/AC and then secondly the GSC/POSS value. 7 stars in this table were only recoverable in the GSC/POSS system, and these are shown with the symbol (†) after the hh. Notes: a=PHL 678, b=PHL 2726=PB5795, c=PB6107, d=PHL 932, e=Feige 11=FB 13=PB 6252, f=Feige 19=PB 6715, g=TON 13=FB 55, h=GD299=FB 57, i=GD300=FB60, j=UVO1032+40=PB 385, k=Feige 34=FB 64=PB 462, l=TON 1273, m=TON 1281, n=LB1938, o=Feige 36, p=Feige 38, q=TON 1384, r=EG 81=Feige 46, s=PB3854, t=HZ 22, u=Feige 65, v=BD+18 2647, w=BD−7 3477=HW Vir, x=TON 139, y=HZ 38, z=LB27, aa=Feige 80, ab=Feige 87, ac=PB1207, ad=TON 183, ae=TON 194, af=Feige 95, ag=TON 209, ah=UVO1505+07, ai=TON 788, aj=TON 803, ak=LB9514, al=Feige 109, am=PB5333, an=GD314, and ao=GD108.

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.
0	1	6.73	+11	0	36.32	.0143	192.
						.0035	28.
0	7	33.77	+13	35	57.65[a]	.0252	173.
						.0043	11.
0	12	27.77	+03	54	31.60[b]	.0076	23.
						.0039	56.
0	14	19.32	+22	24	17.61	.0034	126.
						.0040	48.
0	14	22.24	+28	36	55.96	.0222	187.
						.0034	16.
0	35	32.04	+24	59	15.95	.0155	105.
						.0034	17.
0	42	6.11	+05	9	23.37[c]	.0141	148.
						.0041	8.
0	42	16.58	+13	45	40.49	.0042	224.
						.0059	70.
0	59	56.65	+15	44	13.57[d]	.0393	97.
						.0032	8.
1	4	21.67	+04	13	37.26[e]	.0418	163.
						.0037	6.
1	5	22.40	+26	22	54.07	.0095	276.
						.0030	2.
1	13	14.87	+26	27	31.18	.0060	276.
						.0020	15.
1	15	54.26	+26	14	00.23	.0034	53.
						.0039	79.
1	19	29.04	+24	25	31.86	.0992	176.
						.0022	3.
						.088	177.
						.009	6.

Table 5. Hot subdwarf astrometry, continued.

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.
1	25	29.59	+21	36	30.74	.0034	234.
						.0023	71.
1	36	26.18	+11	39	32.10	.0381	150.
						.0025	1.
2	9	13.81	+22	44	31.88	.0220	210.
						.0040	20.
2	10	54.21	+01	47	46.82[f]	.0091	84.
						.0034	26.
2†	18	15.69	+18	31	38.4	0.042	96.
						0.009	12.
2	32	36.31	+06	38	52.09	.0180	84.
						.0033	16.
2	35	11.99	+09	45	37.56	.0036	124.
						.0041	50.
2	43	22.75	+04	50	36.27	.0286	96.
						.0049	10.
2	45	38.87	+13	25	55.70	.0159	124.
						.0035	0.
2	53	48.78	+19	9	59.07	.0302	202.
						.0038	14.
3	16	51.01	+14	48	14.80	.0058	30.
						.0041	71.
3	17	42.24	+10	30	54.75	.0120	30.
						.0050	18.
3	45	34.58	+02	47	53.04	.0490	203.
						.0039	9.
7	54	24.40	+65	42	7.36	.0221	57.
						.0037	20.
						.035	42.
						.009	14.
8	38	15.04	+69	42	48.29	.0048	327.
						.0036	6.
8	41	43.86	+13	4	29.99	.0053	236.
						.0047	70.
8	51	44.47	+18	27	22.43	.0074	215.
						.0041	58.
8	59	2.66	+11	56	27.84	.0339	240.
						.0040	14.
9	12	7.29	+16	13	20.35	.0029	37.
						.0029	62.
9	12	51.66	+27	20	31.42	.0050	53.
						.0039	77.
9	21	28.23	+02	46	2.25	.0348	235.
						.0036	11.
9	22	39.81	+27	2	25.64[g]	.0353	131.
						.0040	2.
9	37	16.28	+18	25	11.13	.0184	203.
						.0029	21.
9	38	20.33	+55	5	50.76[h]	.0681	177.
						.0031	4.
						.053	182.
						.008	9.
9	45	11.85	−03	9	20.99	.0640	137.
						.0042	0.
						.050	140.
						.009	10.

Table 6. Hot subdwarf astrometry, continued.

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.
9	55	19.52	+51	36	59.61[i]	.1184	219.
						.0055	5.
						.115	218.
						.008	4.
9	57	1.50	+04	38	58.10	.0018	304.
						.0042	11.
10	0	42.58	−12	5	59.31	.0031	251.
						.0037	71.
10	0	47.27	−07	33	30.77[ao]	.0506	269.
						.0030	3.
						.036	273.
						.009	15.
10	21	10.58	−04	56	19.60	.0192	231.
						.0048	29.
10	35	16.63	+40	21	14.60[j]	.0930	247.
						.0029	3.
						.087	250.
						.008	6.
10	39	36.72	+43	6	9.33[k]	.0231	175.
						.0020	1.
10	41	52.71	+21	40	32.94[l]	.0172	234.
						.0023	16.
10	43	39.36	+23	9	6.33[m]	.0341	220.
						.0041	14.
10	47	5.00	+75	44	22.65	.0092	220.
						.0040	46.
10	54	18.51	+49	49	59.73	.0051	191.
						.0035	49.
11	3	43.20	+58	50	32.79[n]	.0062	61.
						.0053	71.
11	4	31.67	+24	39	42.37[o]	.0288	301.
						.0039	5.
11	13	48.43	−08	0	20.76	.0117	140.
						.0042	4.
11	14	36.51	+33	40	27.06	.0172	188.
						.0067	28.
11	16	49.37	+06	59	33.10[p]	.0169	242.
						.0040	27.
11	18	34.79	+19	49	47.08[q]	.0259	259.
						.0032	11.
11	37	26.41	+14	10	14.08[r]	.0976	240.
						.0040	5.
12†	4	38.56	+60	32	8.3[an]	0.051	255.
						0.008	9.
12	9	16.70	+16	11	55.07[s]	.0345	233.
						.0047	16.
12	14	48.52	+36	38	49.43[t]	.0079	207.
						.0052	67.
12	16	49.06	+02	47	25.76	.0264	245.
						.0044	21.
12	21	29.07	+53	4	36.58	.0081	354.
						.0034	6.
12	26	17.08	+66	53	15.27	.0230	214.
						.0038	18.

Table 7. Hot subdwarf astrometry, continued.

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.
12	33	12.56	+04	57	37.49	.0228	232.
						.0042	21.
12	35	51.14	+42	22	39.82[u]	.0106	148.
						.0037	4.
12†	36	45.29	+47	55	23.2	0.096	232.
						0.009	5.
12	41	51.79	+17	31	19.93[v]	.0390	193.
						.0023	5.
12	44	20.24	−08	40	16.87[w]	.0191	147.
						.0041	5.
12	47	6.63	+11	3	13.48	.0124	14.
						.0049	37.
12	56	4.89	+28	7	19.44[x]	.0172	230.
						.0033	21.
12	59	21.25	+27	34	6.13[y]	.0271	259.
						.0045	16.
13	1	9.89	−03	16	48.15	.0158	252.
						.0021	17.
13	2	41.77	+27	40	42.01[z]	.0072	214.
						.0040	57.
13	19	53.60	+12	3	58.19[aa]	.0105	281.
						.0035	13.
13	25	39.47	−08	49	19.10	.0040	281.
						.0040	70.
13	27	48.58	+09	54	51.03	.0085	20.
						.0038	50.
13	38	48.15	−02	1	49.17	.0162	236.
						.0042	29.
13	40	8.83	+47	51	51.92	.0180	116.
						.0040	9.
13	40	14.66	+60	52	48.35[ab]	.0585	163.
						.0035	2.
						.055	168.
						.008	9.
13	41	59.73	+60	29	40.99	.0291	98.
						.0033	10.
13	50	15.58	+08	19	17.25	.1430	210.
						.0041	3.
						.133	204.
						.009	4.
13	55	4.68	−02	30	21.95	.0273	242.
						.0023	10.
14	2	9.17	+38	37	15.01[ac]	.0069	223.
						.0038	58.
14	5	59.85	+31	24	36.71[ad]	.0346	273.
						.0027	6.
14	12	28.17	−10	33	.21	.0196	282.
						.0037	20.
14	20	7.41	+25	29	18.70[ae]	.0183	202.
						.0038	23.
14	28	29.60	+21	6	1.59[af]	.0341	312.
						.0034	1.
14	35	19.84	+00	13	51.29	.0379	162.
						.0052	9.
						.041	166.
						.010	14.

Table 8. Hot subdwarf astrometry, continued.

hh	mm	ss.ss	deg	min	sec	μ	θ
						err.	err.
14	35	20.23	+23	45	30.31[ag]	.0127	161.
						.0037	16.
14	42	27.48	−01	32	46.13	.0108	124.
						.0042	10.
14†	53	13.90	+47	2	44.5	0.072	191.
						0.009	7.
14	54	39.81	+19	37	.88	.0222	199.
						.0023	10.
15	8	21.05	+07	13	14.91[ah]	.0101	188.
						.0034	26.
15	9	19.08	−05	20	54.47	.0361	175.
						.0042	8.
15	14	32.48	+24	10	40.54[ai]	.0457	261.
						.0032	8.
15	20	31.32	+63	52	7.95	.0527	33.
						.0040	8.
						.044	42.
						.009	12.
15	31	10.39	+10	15	.80	.0261	232.
						.0066	29.
15	34	42.61	+46	31	47.86	.0168	326.
						.0036	0.
15	40	39.02	+39	55	49.25	.0166	136.
						.0038	3.
15	46	9.00	+25	7	40.62[aj]	.0048	214.
						.0056	80.
15	46	11.72	+48	38	37.11	.0538	304.
						.0033	3.
						.052	315.
						.009	10.
15	55	37.86	+27	6	48.69	.0137	209.
						.0054	44.
15	56	33.62	+22	2	45.81	.0142	258.
						.0034	28.
15	57	56.34	+30	11	25.48	.0118	80.
						.0043	29.
16	8	3.69	+07	4	28.68	.0096	231.
						.0042	48.
16	9	54.93	+17	14	57.07	.0166	224.
						.0041	28.
16	11	21.34	+52	46	5.66	.0135	196.
						.0034	22.
16	12	47.02	+23	48	40.54[ak]	.0081	150.
						.0040	16.
16	18	23.09	+14	16	12.89	.0200	150.
						.0030	3.
16	20	38.74	+52	6	8.78	.0097	338.
						.0035	8.
16	32	1.34	+07	59	39.72	.0060	80.
						.0034	41.
16	34	47.05	+08	40	.29	.0389	202.
						.0039	11.
16†	46	53.49	+31	3	45.50	.117	274.
						.008	4.

Table 9. Hot subdwarf astrometry, continued.

hh	mm	ss.ss	deg	min	sec	μ	θ
						err.	err.
17	3	21.48	+35	48	49.14	.0548	269.
						.0074	4.
						.064	288.
						.009	8.
17	6	46.17	+22	5	52.16	.0084	277.
						.0031	0.
17	9	15.90	+60	10	10.79	.0192	309.
						.0054	5.
17	12	18.74	+48	58	35.88	.0129	123.
						.0041	9.
17	24	11.97	+28	35	26.93	.0108	338.
						.0052	29.
17	27	57.39	+25	8	35.69	.0198	297.
						.0033	3.
17	39	28.44	+50	29	25.11	.0118	320.
						.0041	3.
21	13	21.07	+12	57	9.23	.0085	160.
						.0048	26.
21	13	42.35	+02	33	9.67	.0060	160.
						.0030	27.
21	21	2.28	+12	50	49.76	.0052	164.
						.0037	7.
21	31	18.80	+14	49	22.96	.0025	216.
						.0041	61.
21†	53	59.32	+10	15	1.1	0.040	110.
						0.008	12.
22	7	16.49	+03	42	19.82	.0096	129.
						.0060	6.
22	8	.65	+02	33	43.66	.0258	212.
						.0058	26.
22	17	4.59	+18	37	53.45	.0110	231.
						.0041	41.
22	21	59.16	+09	37	25.72	.0062	194.
						.0036	47.
22†	25	31.19	+14	33	6.5	0.041	110.
						0.008	12.
22	32	8.72	+10	14	25.14	.0071	236.
						.0041	61.
23	4	17.23	+26	12	2.49	.0162	210.
						.0039	27.
23	17	26.89	+07	52	4.93[al]	.0062	14.
						.0059	65.
23	19	55.34	+04	52	34.79[am]	.0336	131.
						.0042	1.
23	21	5.80	+24	10	39.03	.0060	131.
						.0020	15.
23	24	27.45	+21	38	51.42	.0073	145.
						.0041	13.
23	48	22.29	+24	23	6.64	.0070	255.
						.0020	7.
23	55	17.33	+18	20	15.45	.0285	94.
						.0030	7.

Table 10. White Dwarf data. Data on the left side of the vertical line are from this work. When a star is represented by two sets of proper motion measurements the lower set is from the GSC/POSS work. Data on the right side of the vertical line are from the McCook&Sion WD catalog. Data with a dagger symbol have only been found in the GSC-POSS system. The units of the proper motions is "/year and the position angle θ is counted positive East of North.

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.	μ err.	θ err.	Type	Names
0	8	18.14	+51	23	16.74	.0309	173.			DO	KPD
						.0028	1.				
1†	4	41.36	+09	49	43.30	.048	259.			DA	PHL972
						.009	11.				
2	35	7.54	+03	43	56.70	.0734	91.	.082	85.	DA	Feige 24
						.0030	1.	.003	2.		EG020
						.083	73.				
						.009	6.				
3†	11	49.17	+19	0	57.60	.107	163.			DA	PG
						.009	5.				
10†	9	36.50	+63	58	38.30	.121	228.		220	DA	GD462
						.008	4.				
10†	28	34.80	−00	0	28.70	.091	140.			DA	PG
						.008	5.				
10†	29	9.89	+02	5	54.10	.114	233.	0.10	205	DA	LP550-292
						.008	4.	.02			
10†	54	43.56	+27	6	57.20	.137	258.		270	DA	GD125
						.009	4.				
11	3	44.89	+60	11	30.75	.0096	59.			DA	EG075
						.0053	59.				
11	26	19.10	+18	39	16.79	.0564	225.			DA	PG
						.0041	8.				
						.037	215.				
						.007	11.				
11†	32	27.37	+15	17	31.20	.073	131.			DA	PG
						.009	7.				
11	37	5.18	+29	47	58.21	.1568	265.	.15		DA	GD140/EG184
						.0029	2.	.02			CBS46
						.135	273.				
						.009	4.				
12	4	38.59	+60	32	8.29	.0525	239.			DA	GD314
						.0052	12.				
12	9	36.08	−03	33	7.78	.0132	127.			DA	
						.0042	5.				
12†	13	56.41	+32	56	30.90	.081	292.	.11	310	DO	HZ21
						.009	7.	.02			
12†	31	34.76	−01	32	9.50	.187	272.			DA	PG
						.009	3.				
12	50	4.50	+55	6	2.06	.0752	263.	.046	270.	DA	GD319
						.0038	5.	.02			
						.050	256.				
						.008	10.				

Table 11. White Dwarf data continued

hh	mm	ss.ss	deg	min	sec	μ err.	θ err.	μ err.	θ err.	Type	Names
12†	57	2.37	+22	1	56.00	.191	188.	.20	180	DA	GD153
						.010	3.	.02		5	
13†	12	57.50	+58	5	12.70	.211	115.			DA	PG
						.008	2.				
13	16	21.91	+29	5	55.96	.1990	236.	.17	240.	DA	Hz 43
						.0033	2.	.01	4.		EG098
						.158	233.				
						.009	3.				
13	38	51.09	+70	17	7.89	.4016	268.	.41	269.	DA	EG102
						.0026	1.	.02	1.		
13	46	2.23	+57	0	31.49	.2650	315.	.26		DA	G223-024
						.0039	1.	.02			
15	11	27.72	+32	4	17.64	.1733	291.	.163	297.	DA	GD178
						.0069	2.	.01	2.		EG191
						.171	294.				
						.009	3.				
15†	29	50.27	+08	55	46.80	.061	70.			DA	PG
						.009	9.				
15†	34	6.12	−02	27	6.30	.133	208.	.136	202	DA	GD185
						.008	3.	.02			
15	40	23.44	+26	48	29.79	.0175	114.			DA	TON 245
						.0037	11.				
16†	2	41.95	+57	58	14.30	.053	347.			DA	PG
						.008	9.				
16†	34	41.74	+17	36	34.60	.086	111.			DA	PG
						.008	5.				
16	47	18.49	+32	28	32.62	.1590	284.		295.	DB	GD358
						.0063	3.				EG239
18	47	39.04	+01	57	36.10	.0861	183.	.11		DA	Lanning 18
						.0032	4.	.02			BPM93487
						.067	205.				
						.008	6.				
21	18	56.40	+54	12	39.84	.2167	335.	.27	333.	DA	GR378
						.0038	1.	.02			G231-040
23	12	21.55	+10	47	4.34	.1432	99.	.128	92.	DA	GD246
						.0034	2.	.02	2.		EG233
						.134	93.				
						.008	3.				
23	43	50.90	+32	32	47.40	.2175	255.	.244	255.	DA	EG162
						.0081	3.	.024	1.		
						.223	257.				
						.008	2.				