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## Orbital elements of double stars: ADS 11468, 13850 and 16057

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INTERNATIONAL ASTRONOMICAL UNION COMMISSION 26

(DOUBLE STARS)

INFORMATION CIRCULAR No. 170 (FEBRUARY 2010)

NEW ORBITS

ADS $\alpha$ 2000 $\delta$	Name n	P a	T i	e $\omega$	$\Omega$ (2000) Last ob.	2010 2011	Author(s)
111 00094-2759	BU 391 AB 0°5925	616 <sup>y</sup> 04 1"500	2095.68 98°98	0.103 256°86	81°75 2006.940	259°0 1"352 258.9 1.346	ZIRM
- 00098-3347	SEE3 0.8871	406.00 1.119	1978.45 41.7	0.850 77.6	267.70 2008.5490	117.00 0.801 117.70 0.814	HARTKOPF & MASON
- 00143-2732	HDS 33 12.4010	29.03 0.251	2018.12 59.8	0.378 73.9	177.0 2008.5432	132.0 0.189 141.6 0.199	CVETKOVIC
- 00149-3209	B 1024 0.2456	1466. 1.586	1926.38 110.4	0.814 311.8	126.0 2008.5431	73.1 0.410 72.3 0.410	LING
238 00174+0853	A1803AB 10.0950	35.66 0.189	1950.70 95.4	0.002 282.0	124.10 2008.7670	306.00 0.179 305.00 0.187	HARTKOPF & MASON
281 00206+1219	BU1015 2.6283	137.00 0.333	1961.65 35.0	0.557 10.0	291.20 2008.8879	103.80 0.483 104.70 0.487	HARTKOPF & MASON
- 00251+4803	HDS 56 12.8323	28.05 0.230	1999.30 164.0	0.481 358.9	96.1 2007.8257	294.0 0.326 288.7 0.334	CVETKOVIC
- 00284-2020	B1909 31.7093	11.35 0.202	1995.09 69.8	0.005 99.0	119.49 2009.6710	311.90 0.175 334.80 0.109	HARTKOPF & MASON
475 00345-0433	D2AB 0.1208	2981.00 2.740	2007.00 77.5	0.923 80.2	266.00 2009.7560	42.80 0.067 55.40 0.090	HARTKOPF & MASON
520 00373-2446	BU395 14.3905	25.02 0.675	1998.78 78.6	0.218 318.1	291.98 2009.7560	96.70 0.496 101.00 0.596	HARTKOPF & MASON
- 00427-6537	I440 1.8350	196.00 0.274	2142.00 157.0	0.650 344.0	57.00 2009.6710	269.30 0.402 268.70 0.405	HARTKOPF & MASON

**NEW ORBITS (continuation)**

<b>ADS</b> $\alpha$ 2000 $\delta$	<b>Name</b> <b>n</b>	<b>P</b> <b>a</b>	<b>T</b> <b>i</b>	<b>e</b> $\omega$	$\Omega$ (2000) <b>Last ob.</b>	<b>2010</b> <b>2011</b>	<b>Author(s)</b>
822 00596-0111	A1903AB 2.5107	143.40 0.354	1957.00 20.4	0.225 84.0	145.00 2008.7729	15.00 0.400 16.80 0.401	HARTKOPF & MASON
- 01071-0036	HDS 144 AB 8.9916	40.04 0.274	2021.53 135.4	0.186 64.9	127.3 2008.7673	176.0 0.236 167.8 0.242	CVETKOVIC
- 01094-5636	HU1342 4.5536	79.10 0.260	1967.70 118.1	0.457 4.0	153.10 2009.6710	328.60 0.373 327.60 0.370	HARTKOPF & MASON
- 01198-0031	HDS 102 13.3195	27.03 0.109	1995.04 16.8	0.215 13.0	194.00 2009.6710	38.40 0.131 47.30 0.128	MASON & HARTKOPF
- 01262-6751	DON 17 0.2381	1512.00 2.536	1949.90 37.0	0.947 344.0	148.00 2008.7700	287.70 1.282 288.00 1.297	HARTKOPF & MASON
1232 01343-0827	A 314 3.3353	107.90 0.296	1989.31 116.1	0.671 44.1	193.00 2008.7729	9.80 0.349 9.10 0.357	HARTKOPF & MASON
- 01350-2955	BU 1000ABC 2.9152	123.50 1.510	1956.74 35.2	0.226 47.5	141.30 2008.7670	347.80 1.745 349.50 1.740	HARTKOPF & MASON
1360 01437+0934	BU 509 1.4923	241.20 0.900	1983.48 118.0	0.292 94.0	221.04 2008.7729	49.80 0.713 48.80 0.726	HARTKOPF & MASON
- 02009-4350	I 265 0.4647	775.00 1.209	1977.26 68.9	0.744 271.2	222.60 2008.6060	225.00 0.578 225.40 0.587	HARTKOPF & MASON
- 02198-3527	HJ 3494 0.7583	475.00 2.119	1918.20 146.2	0.494 72.0	80.30 2008.7729	245.10 2.225 244.60 2.236	HARTKOPF & MASON
2236 02572+0153	A 2413 2.8940	124.40 0.632	1930.27 70.1	0.449 101.3	185.10 2008.8879	158.10 0.538 159.30 0.547	HARTKOPF & MASON
2283 03003-1118	A 2611 4.8394	74.40 0.160	1950.00 46.4	0.510 314.0	220.00 2008.7679	44.40 0.172 47.00 0.165	HARTKOPF & MASON
2911 03590+0947	HU 27 1.3021	276.00 0.809	2083.00 77.7	0.673 261.6	184.10 2008.8879	328.90 0.401 329.80 0.406	HARTKOPF & MASON
- 04119+2338	CHR 14 8.8020	40.90 0.310	1992.97 71.4	0.853 73.3	155.90 2008.7732	15.10 0.265 17.20 0.258	MASON & HARTKOPF

**NEW ORBITS (continuation)**

<b>ADS <math>\alpha</math>2000<math>\delta</math></b>	<b>Name n</b>	<b>P a</b>	<b>T i</b>	<b>e <math>\omega</math></b>	<b><math>\Omega</math>(2000) Last ob.</b>	<b>2010 2011</b>	<b>Author(s)</b>
- 04195+3800	HDS 552 10.9794	32.7 0.183	1994.23 104.6	0.653 288.8	128.4 2008.0688	348.7 0.114 343.7 0.125	CVETKOVIC
3151 04216+0658	A 1835 2.7959	128.76 0.220	1958.36 56.6	0.532 121.7	76.8 1996.8687	18.1 0.200 19.6 0.203	ZIRM
3191 04245+2244	BU 1235 1.6490	218.31 0.424	1973.93 85.3	0.123 184.3	57.1 1996.8712	256.3 0.097 259.2 0.086	ZIRM
- 04268+1240	WOR 15 8.8365	40.74 0.349	1995.54 131.6	0.793 316.9	316.9 2007.8260	1.9 0.471 0.0 0.487	ZIRM
3241 04275-2427	I 413 2.5279	142.40 0.484	1968.60 31.7	0.750 69.7	95.90 2008.7729	323.10 0.675 323.80 0.680	HARTKOPF & MASON
- 04340-5503	B 2092AB 29.7352	12.11 0.201	1986.90 46.0	0.777 40.0	304.90 2008.7729	220.80 0.101 3.90 0.035	HARTKOPF & MASON
3326 04362+0814	A 1840AB 1.4600	247.00 0.267	1996.20 145.3	0.404 53.8	118.20 2008.7700	13.40 0.146 9.80 0.149	HARTKOPF & MASON
3329 04366+1946	STT 86 0.4347	828.23 0.612	2094.65 146.3	0.228 190.4	139.4 2008.8498	0.4 0.472 359.8 0.472	ZIRM
3614 05017+2050	HU 445 2.1665	166.20 0.419	1892.00 45.0	0.037 323.0	290.90 2008.8500	136.50 0.389 138.30 0.385	HARTKOPF & MASON
3728 05089+0313	A 2636 0.9225	390.00 0.350	1947.50 42.0	0.841 82.0	120.00 2008.7729	348.80 0.349 349.20 0.351	HARTKOPF & MASON
- 05234-3640	I 275 0.4938	729.09 1.705	2002.31 130.1	0.530 161.2	40.0 2008.7703	222.5 0.803 221.4 0.806	ZIRM
- 05248-5219	I 345 2.9221	123.2 0.287	1995.50 124.8	0.692 47.8	47.8 2008.773	213.2 0.257 211.8 0.269	ARGYLE & ALZNER
- 05276-2055	SEE 53 4.3937	81.94 0.188	1992.59 11.8	0.413 35.0	288.00 2008.7700	86.30 0.201 89.70 0.207	HARTKOPF & MASON
- 05352-4657	RST 141 2.6817	134.00 0.357	1966.50 47.5	0.746 43.0	64.00 2008.7729	264.30 0.532 264.80 0.534	HARTKOPF & MASON

**NEW ORBITS (continuation)**

<b>ADS</b> $\alpha$ 2000 $\delta$	<b>Name</b> <b>n</b>	<b>P</b> <b>a</b>	<b>T</b> <b>i</b>	<b>e</b> $\omega$	$\Omega$ (2000) <b>Last ob.</b>	<b>2010</b> <b>2011</b>	<b>Author(s)</b>
4279 05417-0254	Bu 052 1.8760	191.90 0.689	2005.60 99.3	0.126 353.9	186.40 2009.2650	185.70 0.602 185.30 0.600	HARTKOPF & MASON
- 05525-0217	HDS 787 29.7521	12.10 0.116	2000.43 54.0	0.179 289.8	149.80 2009.2650	338.10 0.112 2.10 0.083	MASON & HARTKOPF
- 05580-5212	HU 1570 1.6252	221.50 0.672	1955.83 22.9	0.748 34.0	155.00 2008.7729	345.10 0.947 345.60 0.955	HARTKOPF & MASON
- 06298-5014	R 65AB 6.7764	53.13 0.630	1969.44 121.5	0.977 67.1	140.00 2008.7700	260.20 0.584 259.30 0.559	HARTKOPF & MASON
- 06426+3955	HDS 930 27.3530	13.16 0.077	1999.12 150.0	0.282 295.8	123.9 2007.8207	285.5 0.072 252.2 0.057	CVETKOVIC
6526 08017-0836	A 1580 0.9014	399.00 0.351	1965.00 38.0	0.290 104.0	117.00 2009.2600	291.10 0.290 292.10 0.292	HARTKOPF & MASON
- 08125-4616	CHR 143 AaAb 13.8996	25.90 0.082	1987.68 76.9	0.610 259.0	167.30 2009.2625	334.80 0.057 340.00 0.056	MASON & HARTKOPF
6871 08331-2436	BU 205AB 2.5186	142.90 0.526	1954.38 150.8	0.290 90.1	177.70 2009.2620	294.00 0.586 292.30 0.587	HARTKOPF & MASON
- 08431-1225	RST 3603 3.6861	97.70 0.266	1964.60 157.0	0.383 5.0	146.00 2009.2600	327.60 0.367 326.00 0.367	HARTKOPF & MASON
6989 08462-1422	HU 120 1.8222	197.60 0.475	1983.19 45.6	0.375 82.5	140.20 2009.2600	315.60 0.410 317.20 0.417	HARTKOPF & MASON
7021 08495+0852	BU 1068AB 0.8648	416.00 0.448	1964.40 128.1	0.608 82.1	151.70 2009.2600	322.70 0.360 322.10 0.363	HARTKOPF & MASON
7077 08542-0229	A 1754 0.7973	452.00 0.530	1975.10 46.0	0.510 292.0	115.80 2009.2600	123.90 0.352 124.90 0.355	HARTKOPF & MASON
- 09243-3926	FIN 348 9.0000	40.00 0.127	1984.38 149.7	0.548 107.0	222.10 2009.2625	272.70 0.169 268.90 0.167	MASON & HARTKOPF
7384 09279+3128	HO 366 AB 1.0195	353.11 0.404	2001.30 19.4	0.764 166.1	9.8 1997.1315	250.9 0.136 256.1 0.144	ZIRM

**NEW ORBITS (continuation)**

<b>ADS <math>\alpha</math>2000<math>\delta</math></b>	<b>Name n</b>	<b>P a</b>	<b>T i</b>	<b>e <math>\omega</math></b>	<b><math>\Omega</math>(2000) Last ob.</b>	<b>2010 2011</b>	<b>Author(s)</b>
7706 10163-2859	I 851 3.0775	117.00 0.216	1953.90 136.0	0.782 11.0	63.00 2009.2629	236.20 0.381 235.70 0.381	HARTKOPF & MASON
7871 10397+0851	STT 224AB 1.5981	225.30 0.534	2053.10 137.8	0.086 94.3	153.50 2009.2650	141.60 0.512 140.30 0.509	HARTKOPF & MASON
7896 10426+0335	A 2768 4.4306	81.30 0.394	1976.71 142.5	0.549 358.4	59.70 2009.2650	250.10 0.591 248.80 0.596	HARTKOPF & MASON
7982 10557+0044	BU 1076 2.6188	137.50 0.754	1921.20 125.1	0.710 322.3	219.20 2009.2650	53.80 1.139 53.40 1.136	HARTKOPF & MASON
8096 11141-1526	BU 916 0.0003	1386.46 1.177	1991.78 45.2	0.787 350.2	143.7 2004.2010	179.6 0.267 181.8 0.268	ZIRM
8138 11214-2027	STN 22 0.5038	714.60 5.896	2063.90 47.4	0.630 272.1	175.5 1998.37	351.5 3.896 352.1 3.857	ZIRM
8145 11230+0408	A 2776AB 3.7210	97.00 0.190	1998.00 53.6	0.942 75.0	192.00 2009.2600	55.20 0.155 56.30 0.161	HARTKOPF & MASON
- 11268-5310	I 883 2.3326	154.30 0.224	1976.81 35.3	0.640 311.7	129.80 2009.2600	227.40 0.226 228.80 0.230	HARTKOPF & MASON
- 11279-0142	RST 4944 0.8058	447.00 0.405	2011.00 131.0	0.535 61.0	287.00 2009.2600	240.90 0.146 237.30 0.142	HARTKOPF & MASON
8332 11532-1540	A 2579 2.4772	145.30 0.403	1902.11 115.6	0.703 184.2	190.80 2009.2660	39.40 0.402 38.60 0.402	HARTKOPF & MASON
8481 12158-2321	BU 920	873.04 2.012	1879.57 63.5	0.166 28.0	142.2 2009.2599	306.1 1.857 306.3 1.864	RICA
- 12396-3717	DAW 63 6.3276	56.89 0.368	1964.10 22.6	0.289 359.0	199.00 2009.2629	93.20 0.335 100.30 0.323	HARTKOPF & MASON
8757 13038-2035	BU 341 6.1038	58.98 0.718	1964.10 92.8	0.988 234.5	136.2 2009.2600	131.6 0.583 131.5 0.556	ZIRM
- 13145-2417	FIN 297AB 5.8728	61.30 0.152	1969.60 20.0	0.687 345.0	180.00 2008.5394	0.10 0.238 1.70 0.234	MASON & HARTKOPF

**NEW ORBITS (continuation)**

<b>ADS</b> $\alpha$ 2000 $\delta$	<b>Name</b> <b>n</b>	<b>P</b> <b>a</b>	<b>T</b> <b>i</b>	<b>e</b> $\omega$	$\Omega$ (2000) <b>Last ob.</b>	<b>2010</b> <b>2011</b>	<b>Author(s)</b>
- 13482+2248	COU 401 3.6474	98.70 0.401	2007.42 76.8	0.700 70.9	165.4 2007.4868	331.8 0.109 337.5 0.154	DOCOBO & TAMAZIAN
- 13539-1440	RST 3852 3.7887	95.00 0.225	1985.80 128.9	0.278 31.2	150.60 2009.2660	348.30 0.228 346.20 0.234	HARTKOPF & MASON
- 13574-6229	FIN 370 19.3861	18.57 0.147	2006.54 152.2	0.201 32.0	284.00 2009.2627	159.40 0.120 140.00 0.134	MASON & HARTKOPF
9073 13583+0213	A 2167 3.2896	109.40 0.228	1824.80 119.5	0.612 270.3	246.90 2009.2600	100.30 0.201 98.60 0.201	HARTKOPF & MASON
- 14462-2111	FIN 309 27.8444	12.93 0.181	1995.25 25.9	0.643 39.5	281.90 2009.2628	90.60 0.176 106.30 0.226	MASON & HARTKOPF
9443 14565+0255	A 2172 2.1391	168.30 0.196	2000.40 115.0	0.177 326.0	128.50 2009.2629	130.30 0.164 129.10 0.165	HARTKOPF & MASON
- 14567-6247	FIN 372 9.0863	39.62 0.086	1993.81 153.3	0.304 68.6	228.00 2009.2603	1.30 0.103 355.90 0.103	MASON & HARTKOPF
- 15234-5919	HJ 4757 1.3933	258.00 2.576	2075.00 100.4	0.931 264.9	116.00 2009.2600	1.70 0.823 0.80 0.823	HARTKOPF & MASON
- 15347+2655	COU 798 2.3271	154.7 0.259	1983.37 66.7	0.357 24.7	46.1 2007.5061	199.4 0.171 201.3 0.179	DOCOBO & TAMAZIAN
- 15513-0305	CHR 51 7.1146	50.60 0.400	2002.78 98.1	0.832 72.8	74.00 2009.2657	246.40 0.328 245.60 0.337	MASON & HARTKOPF
- 16045-1948	MCA 42CE 9.2308	39.00 0.133	2034.20 41.1	0.029 350.0	184.00 2009.2629	320.20 0.116 328.80 0.122	MASON & HARTKOPF
10017 16212+2259	HU 481 3.0130	119.50 0.464	1997.95 146.8	0.567 160.5	172.60 2009.2629	271.50 0.300 266.70 0.313	HARTKOPF & MASON
10095 16318-0216	A 693 3.7351	96.40 0.196	1991.55 129.2	0.273 345.4	221.70 2009.2629	138.30 0.121 132.40 0.122	HARTKOPF & MASON
- 17156-3836	FIN 355 25.3254	14.22 0.253	1985.98 115.2	0.491 135.2	190.41 2009.2606	197.40 0.326 191.30 0.300	MASON & HARTKOPF

**NEW ORBITS (continuation)**

<b>ADS <math>\alpha</math>2000<math>\delta</math></b>	<b>Name n</b>	<b>P a</b>	<b>T i</b>	<b>e <math>\omega</math></b>	<b><math>\Omega</math>(2000) Last ob.</b>	<b>2010 2011</b>	<b>Author(s)</b>
- 17161+2316	COU 315 3.9779	90.50 0.506	2012.83 100.4	0.975 89.3	103.4 2007.4927	127.8 0.103 123.5 0.090	DOCOBO & TAMAZIAN
- 17443-7213	HDO 275 3.6505	98.60 0.629	1986.76 150.1	0.319 58.6	266.30 2009.2629	87.20 0.673 84.70 0.684	HARTKOPF & MASON
10858 17530-0755	STF 3128AB 0.8807	409.00 0.965	1947.60 153.0	0.942 356.0	214.00 2009.2660	50.70 1.214 50.50 1.225	HARTKOPF & MASON
- 18044-5953	RST 5099 8.2895	43.40 0.269	1965.80 65.5	0.499 106.4	122.40 2009.2629	275.50 0.098 291.10 0.139	HARTKOPF & MASON
11260 18197+1016	HU 197 2.6588	135.40 0.487	1930.80 125.7	0.057 317.5	238.02 2009.2660	67.00 0.500 65.50 0.503	HARTKOPF & MASON
11468 18339+5221	A 1377 AB 1.5783	228.1 0.268	1918.53 49.3	0.437 272.0	55.2 2008.711	124.5 0.253 125.6 0.253	SCARDIA et al. (*)
11640 18455+0530	FIN 332AaAb 13.3185	27.03 0.094	1994.20 106.0	0.790 136.2	10.00 2009.2634	312.00 0.160 311.20 0.155	MASON & HARTKOPF
11640 18455+0530	FIN 332BaBb 9.3264	38.60 0.105	1967.90 117.2	0.867 111.8	311.20 2009.2634	6.80 0.043 356.60 0.053	MASON & HARTKOPF
- 18465-0058	MCA 53 10.6984	33.65 0.219	1989.71 97.9	0.333 251.7	174.30 2009.2634	71.30 0.040 38.70 0.054	MASON & HARTKOPF
- 19070+1104	HEI 568 1.7547	205.16 0.399	2014.60 134.3	0.230 201.4	94.5 2008.5373	268.8 0.307 266.7 0.305	ZIRM
12803 19406+6240	STF 2574 0.5254	685.13 1.302	2057.26 78.9	0.670 48.2	107.6 1999.7420	92.9 0.507 93.4 0.511	ZIRM
- 19407-0037	CHR 88 17.7253	20.31 0.085	1996.06 158.3	0.047 346.0	202.00 2009.2661	335.90 0.083 318.20 0.081	MASON & HARTKOPF
13048 19531-2528	B 454 3.5467	101.50 0.316	1960.60 85.6	0.120 286.9	159.93 2009.2629	321.80 0.085 325.00 0.101	HARTKOPF & MASON
13493 20123-0806	BU 1205 2.5728	139.90 0.486	1983.50 78.3	0.384 10.4	231.24 2008.5430	33.90 0.279 35.30 0.299	HARTKOPF & MASON



**NEW ORBITS (continuation)**

<b>ADS</b> $\alpha$ 2000 $\delta$	<b>Name</b> <b>n</b>	<b>P</b> <b>a</b>	<b>T</b> <b>i</b>	<b>e</b> $\omega$	$\Omega$ (2000) <b>Last ob.</b>	<b>2010</b> <b>2011</b>	<b>Author(s)</b>
13717 20210-1447	BAR 12 Ba 0.6684	538.62 0.943	2073.19 112.6	0.070 107.7	96.6 2008.7724	63.2 0.541 62.4 0.534	ZIRM
13850 20251+5936	A 730 4.0724	88.44 0.197	1932.47 129.6	0.818 266.5	56.6 2008.802	283.4 0.150 280.7 0.145	SCARDIA et al. (*) (I)
13850 20251+5936	A 730 2.2086	163.0 0.224	2037.06 118.7	0.066 135.5	150.1 2008.802	98.8 0.125 95.3 0.121	SCARDIA et al. (*) (II)
- 20311-1503	FIN 336 6.5455	55.00 0.158	1967.60 66.2	0.672 102.4	150.80 2009.6705	127.60 0.152 129.70 0.152	MASON & HARTKOPF
- 20507-3116	B 997 5.6083	64.20 0.195	1953.70 41.4	0.188 330.0	275.00 2008.7729	182.70 0.130 192.20 0.128	HARTKOPF & MASON
14492 20591-1313	HU 83 2.0729	174.00 0.251	2055.00 47.0	0.210 93.6	101.50 2008.7670	86.30 0.254 87.70 0.254	HARTKOPF & MASON
- 21244-4100	BU 766 AB 0.7748	464.66 0.836	2042.14 111.8	0.201 315.3	113.8 1999.7811	183.3 0.272 180.7 0.276	ZIRM
14954 21251+0923	BU 164 AB 0.9957	361.54 0.555	2023.74 104.5	0.875 47.7	79.3 2008.7723	131.7 0.085 126.6 0.086	ZIRM
- 21273-3218	B 1007 3.0224	119.10 0.158	1971.70 50.8	0.237 337.6	197.40 2008.7670	323.20 0.128 326.00 0.131	HARTKOPF & MASON
- 21274-0701	HDS 3053 17.7340	20.30 0.171	1994.70 54.5	0.370 140.0	154.00 2009.6707	161.30 0.187 170.60 0.160	MASON & HARTKOPF
16057 22330+6955	STF 2924 1.6453	218.8 0.759	1971.59 77.7	0.272 2.5	81.2 2008.939	200.7 0.175 206.7 0.188	SCARDIA et al. (*)
16130 22384-0754	A 2695 2.9023	124.00 0.255	2022.70 76.6	0.660 50.9	283.40 2009.6710	255.80 0.094 259.30 0.099	HARTKOPF & MASON
16157 22400+0113	A 2099 1.4065	256.00 0.604	1917.90 76.9	0.454 2.0	348.30 2008.8879	163.60 0.779 163.80 0.785	HARTKOPF & MASON
16165 22406+0632	HU 494 0.6545	550.00 0.500	1942.00 29.0	0.823 90.0	99.00 2008.7700	331.60 0.465 332.00 0.469	HARTKOPF & MASON

**NEW ORBITS (continuation)**

ADS $\alpha$ 2000 $\delta$	Name n	P a	T i	e $\omega$	$\Omega$ (2000) Last ob.	2010 2011	Author(s)
16242 22455+1112	BU 711 0.4500	800. 2.321	1843.48 135.2	0.629 2.2	144.2 2005.688	351.0 2.553 350.7 2.564	DOCOBO & LING
- 22500-3248	HDO 301 13.5865	26.50 0.199	1962.46 148.9	0.534 257.0	194.70 2008.7700	66.80 0.202 56.50 0.186	HARTKOPF & MASON
- 22535-1137	MCA 73 19.2410	18.71 0.079	1991.52 66.9	0.061 277.0	110.30 2008.7670	24.30 0.029 68.00 0.040	MASON & HARTKOPF
- 23099-2227	RST 3320 3.3217	108.40 0.282	2001.94 162.4	0.463 314.0	156.00 2009.6710	133.10 0.189 127.10 0.197	HARTKOPF & MASON
16576 23114+3813	HU 197 AB 2.1144	170.26 0.419	1843.59 106.7	0.456 249.6	120.4 2009.736	266.6 0.536 266.0 0.540	RICA
- 23209+1643	HEI 88 10.1511	35.46 0.173	2003.12 28.1	0.658 253.6	135.7 2007.8200	168.2 0.196 173.1 0.209	CVETKOVIC
- 23529-0309	FIN 359 15.7826	22.81 0.083	1988.72 133.7	0.422 298.3	209.50 2009.6708	340.00 0.044 291.00 0.034	MASON & HARTKOPF

(\*) SCARDIA, PRIEUR, PANSECCHI & ARGYLE

**PAPERS PUBLISHED IN 2009**

1. ABT, H. A.: *Evidence that Most Binaries Do not Evolve after the Primaries Reach the Main Sequence*. Pub. Astron. Soc. of the Pacific **121**, 248 (2009).
2. ABT, H. A.: *Stellar Rotation versus Duplicity in Open Cluster Early-Type Stars*. Pub. Astron. Soc. of the Pacific **121** (886), 1307 (2009).
3. ABT, H. A.: *MK Classifications of Spectroscopic Binaries*. Astrophys. J. Sup. Ser. **180** (1), 117 (2009).
4. ABT, H. A.: *Why are There Normal Slow Rotators Among A-Type Stars?*. Astron. J. **138** (1), 28 (2009).

5. BALEGA, Y. Y.; LEUSHIN, V. V. & KUZNETSOV, M. K.: *Evolutionary status and chemical composition of the atmosphere of the spectroscopic and speckle interferometric binary HD 10009*. *Astrophys. Bull.* **64** (3), 229 (2009).
6. BURKE, D. et al.: *An Improved Technique for the Photometry and Astrometry of Faint Companions*. *Pub. Astron. Soc. of the Pacific* **121**, 767 (2009).
7. CONNELLEY, M. S., REIPURTH, B. & TOKUNAGA, A. T.: *An Adaptive Optics Survey For Close Protostellar Binaries*. *Astron. J.* **138**, 1193 (2009).
8. CSIZMADIA, Sz. et al.: *Interferometric Observations of the Hierarchical Triple System Algol*. *Astrophys. J.* **705**, 436 (2009).
9. CVETKOVIC, Z.; VINCE, I. & NINKOVIC, S.: *Orbit of Binary 15 Monocerotis*. *Pub. Astron. Obs. Belgrade.* **86** 331 (2009).
10. DAVIDSON J. W. et al.: *A Photometric Analysis of Seventeen Binary Stars Using Speckle Imaging*. *Astron. J.* **138**, 1354 (2009).
11. DOCOBO, J. A. & LING, J. F.: *Binary Stars with Components of Solar Type: 25 Orbits and System Masses*. *Astron. J.* **138**, 1159 (2009).
12. DUPUY, T. J.; LIU, M. C. & IRELAND, M. J.: *Dynamical Mass of the Substellar Benchmark Binary HD 130948BC*. *Astrophys. J.* **692**, 729 (2009).
13. EVANS, N. R., MASSA, D. & PROFFITT, C.: *Massive Star Multiplicity: The Cepheid W Sgr*. *Astron. J.* **137**, 3700 (2009).
14. FEKEL, F. C. & WILLMARTH, D. W.: *The Spectroscopic Orbit of SAO 167450, Visual Companion of AA Ceti*. *Pub. Astron. Soc. of the Pacific* **121** (886), 1359 (2009).
15. FEKEL, F. C., TOMKIN, J. & WILLAMSON, M. H.: *New Precision Orbits of Bright Double-Lined Spectroscopic Binaries. III. HD 82191,  $\omega$  Draconis, and 108 Herculis*. *Astron. J.* **137**, (4), 3900 (2009).
16. FEKEL, F. C. et al.: *HR 8257: A Three-Dimensional Orbit and Basic Properties*. *Astrophys. J.* **695**, 1527 (2009).
17. FRANKOWSKI, A., et al.: *Spectroscopic binaries among Hipparcos M giants. II. Binary frequency*. *Astron. Astrophys.* **498** (2), 479 (2009).
18. FAMAHEY, B, et al.: *Spectroscopic binaries among Hipparcos M giants. I. Data, orbits, and intrinsic variations*. *Astron. Astrophys.* **498** (2), 627 (2009).
19. GRIFFIN, R. F.: *Spectroscopic binary orbits from photoelectric radial velocities - Paper 204: HR 738, HR 831, HR 5692, and HR 7252*. *The Observatory* **129**, 6 (2009).
20. GRIFFIN, R. F.: *Spectroscopic binary orbits from photoelectric radial velocities - Paper 205: HD 9519, delta Aurigae, HR 4427, and HR 7795*. *The Observatory* **129**, 54 (2009).

21. GRIFFIN, R. F.: *Spectroscopic binary orbits from photoelectric radial velocities - Paper 206: HD 103684, HD 107496, HD 111628, and HD 116479.* The Observatory **129**,127 (2009).
22. GRIFFIN, R. F.: *Spectroscopic binary orbits from photoelectric radial velocities - Paper 207: 58 Piscium, 31 Vulpeculae, and 70 Pegasi.* The Observatory **129**, 198 (2009).
23. GRIFFIN, R. F.: *Spectroscopic binary orbits from photoelectric radial velocities - Paper 208: HD 3065, HD 40602, HD 134738, and HD 216525.* The Observatory **129**, 264 (2009).
24. GRIFFIN, R. F. & McCLURE, R. D.: *Spectroscopic binary orbits for the Henry Draper Catalogue stars.* The Observatory **129**, 28 (2009).
25. HALWACHS J.-L. et al: *Local effects in astrometric binary orbits: perspective transformation and light-travel time.* Mont. Not. RAS **394**, 1075 (2009).
26. HARTKOPF, W. I. & MASON B. D.: *Speckle Interferometry at Mount Wilson Observatory: Observations Obtained in 2006-2007 and 35 New Orbits.* Astron. J. **138**, 813 (2009).
27. HELMINIAK, K. G. et al: *Orbital and physical parameters of eclipsing binaries from the All-Sky Automated Survey catalogue - I. A sample of systems with components' masses between 1 and 2  $M_{\text{Solar}}$ .* Mont. Not. RAS **400**, 969 (2009).
28. HINKLE, K. H. FEKEL, F. C. & JOYCE R. R.: *Infrared Spectroscopy of Symbiotic Stars. VII. Binary Orbit and Long Secondary Period Variability of CH Cygni.* Astrophys. J. **692**, 1360 (2009).
29. HORCH, E. P. et al: *Observations of Binary Stars with the Differential Speckle Survey Instrument. I. Instrument Description and First Results.* Astron. J. **137**, 5057 (2009).
30. JAO, W-C. et al: *Cool Subdwarf Investigations. II. Multiplicity.* Astron. J. **137**, 3800 (2009).
31. JORISSEN, A. et al.: *Spectroscopic binaries among Hipparcos M giants. III. The eccentricity - period diagram and mass-transfer signatures.* Astron. Astrophys. **498** (2), 489 (2009).
32. KISELEV, A. A.; ROMANENKO, L. G. & GORYNYA, N. A.: *A dynamical study of the wide hierarchic triple star ADS 10288.* Astron. Reports **53** (12), 1136 (2009).
33. KISELEV, A. A.; ROMANENKO, L. G. & KALINICHENKO, O. A.: *A dynamical study of 12 wide visual binaries.* Astron. Reports **53**, 126 (2009).
34. KRAUS, S. et al.: *Tracing the young massive high-eccentricity binary system  $\theta^1$  Orionis C through periastron passage.* Astron. Astrophys. **497** (1), 195 (2009).

35. KONACKI, M. et al.: *The Radial Velocity Tatooine Search for Circumbinary Planets: Planet Detection Limits for a Sample of Double-Lined Binary Stars Initial Results from Keck I/Hires, Shane/CAT/Hamspec, and TNG/Sarg Observations*. *Astrophys. J.* **704**, 513 (2009).
36. MAKAROV, V. V. & EGGLETON, P. P.: *The Origin of Bright X-ray Sources in Multiple Stars*. *Astrophys. J.* **703**, 1760 (2009).
37. MASON, B. D. et al: *The High Angular Resolution Multiplicity of Massive Stars*. *Astron. J.* **137**, 3358 (2009).
38. NOVAKOVIC, B.; PAVLOVIC, R. & CVETKOVIC, Z.: *Review of CCD Observations of Binaries at NAO Rozhen*. *Pub. Astron. Obs. Belgrade.* **86** 337 (2009).
39. ORLOV, V. G. et al.: *Speckle Interferometry at the Observatorio Astronómico Nacional. I*. *Rev. Mex. A. A.* **45** (1), 155 (2009).
40. PARKER et al: *Local effects in astrometric binary orbits: perspective transformation and light-travel time*. *Mont. Not. RAS* **397**, 1577 (2009).
41. PRIEUR, R. J. et al: *Do binaries in clusters form in the same way as in the field?*. *Mont. Not. RAS* **395**, 970 (2009).
42. PRIEUR, J.-L. et al: *Speckle observations with PISCO in Merate - VII. Astrometric measurements of visual binaries in 2007*. *Mont. Not. RAS* **395**, 907 (2009).
43. RAGHAVAN, D. et al.: *The Visual Orbit of the 1.1 Day Spectroscopic Binary  $\sigma^2$  Coronae Borealis from Interferometry at the Chara Array*. *Astrophys. J.* **690**, 394 (2009).
44. RAMM, D. J. et al.: *Spectroscopic orbits for K giants  $\beta$  Reticuli and  $\nu$  Octantis: what is causing a low-amplitude radial velocity resonant perturbation in  $\nu$  Oct?*. *Monthly Notices of the RAS* **394** (3), 1695 (2007).
45. SCARDIA, R. et al: *Speckle observations with PISCO in Merate: VI. Astrometric measurements of visual binaries in 2006*. *Mont. Not. RAS* **330**, 55 (2009).
46. SCHAEFER, G. et al: *New Frontiers in Binary Stars: Science at High Angular Resolution*. *astro2010S*, 259 (2009).
47. TEN BRUMMELAAR, T. et al: *Astrometry and Photometry of Binary Exoplanet Host Stars*. *AAS Meeting 214*, 1122 (2009).
48. ZASCHE, P. et al.: *A Catalog of Visual Double and Multiple Stars With Eclipsing Components*. *Astron. J.* **138**, 664 (2009).

## JOHN DAVIS (1932 - 2010)

Professor John Davis passed away peacefully in his sleep on Friday, 15 January 2010 in Sydney Australia. Prof. Davis obtained his Ph.D. from the University of Manchester and after a short post-doc moved to Australia in the early 1960's to join Hanbury Brown in the development and use of the Intensity Interferometer, for in his own words "no young post-doc in his right mind would have said anything other yes please!". The Intensity Interferometer was operational from 1963-1974, after which Prof. Davis led the effort along with William Tango to establish its successor, the Sydney University Stellar Interferometer whose work is ongoing. John's career is summarized in his own words in the personal remarks following the text of his Ellery Lecture from 2006 (Pub. Astron. Soc. Aus. 23, 94-104, 2006 - [http://www.publish.csiro.au/?act=view\\_file&file\\_id=AS06012.pdf](http://www.publish.csiro.au/?act=view_file&file_id=AS06012.pdf)).

Prof. Davis was engaged in active research till the end, and his influence on the field of high resolution Astronomy, both in his research and in the training of several generations of interferometry "black belts" will be felt for many years to come. He is survived by his wife Madeline and his children, and will be sorely missed by those of us fortunate enough to have known him.

Theo ten Brummelaar  
The CHARA Array on Mount Wilson  
Georgia State University

## FORTHCOMING MEETING

First announcement

Ever wondered what you could do with the 100 million binaries that will be observed with the forthcoming Gaia space astrometry mission from the European Space Agency? Ever wondered whether your favorite binary will be extensively observed or whether binary members will improve or degrade the results you expect for your favorite star cluster?

The GREAT (<http://www.ast.cam.ac.uk/GREAT>) working group on Binaries and Multiple Systems is setup to deal with these kinds of questions. It gathers scientists interested in using the Gaia results for their scientific exploitation as well as those working on processing the observations in the first place. This think tank welcomes anybody interested in double and multiple stars in anticipation of the Gaia harvest. Belonging to any GREAT working group does not offer any privileged/early access to the Gaia data but it increases the likelihood of being ready to efficiently interpret them whenever they become public.

The kick-off meeting of the GREAT - Binaries and Multiple Systems working group will take place in Brussels (Belgium) in May 17 and 18. Details at:

<http://camd08.ast.cam.ac.uk/Greatwiki/WGB3BinariesAndMultipleSystems>

Looking forward to welcoming you in this working group,

D. Pourbaix & F. Arenou

## NEW OFFICERS FOR THE COMMISSION 26 EXECUTIVE BODIES.

During 27-th General Assembly of the IAU, the following Officers of the Commission and its Organizing Committee (OC) took their charges:

Name	Charge	Term	E-mail address
Jose Docobo	President	2009 - 2012	joseangel.docobo@usc.es
Brian Mason	Vice-President	2009 - 2012	bdm@usno.navy.mil
Frederic Arenou	OC Member	2009 - 2015	Frederic.Arenou@obspm.fr
Marco Scardia	OC Member	2009 - 2015	scardia@merate.mi.astro.it
Vakhtang Tamazian	OC Member	2009 - 2015	vakhtang.tamazian@usc.es

Yuri Balega (balega@sao.ru), Dimitri Pourbaix (pourbaix@astro.ulb.ac.be) and Colin Scarfe (scarfe@uvic.ca) continue to serve as Organizing Committee members until 2012.

\*\*\*\*\*

The deadline for contributions to Information Circular No. 171 is:

June 15th 2010

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