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Orbital elements of double stars: ADS 9473

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INTERNATIONAL ASTRONOMICAL UNION
COMMISSION G1 (BINARY AND MULTIPLE STAR SYSTEMS)
DOUBLE STARS INFORMATION CIRCULAR No. 199 (OCTOBER 2019)

NEW ORBITS

ADS α2000δ	Name n	P a	T i	e ω	Ω(2000) Last ob.	2019 2020	Author(s)
- 00121-5832	RST 4739 9°7539	36. ^y 9 0 ^{''} 236	1989.95 147°4	0.597 278°2	55°0 2019.529	272°5 0 ^{''} 262 266.9 0.248	TOKOVININ
- 00277-1625	YR 1 Aa,Ab 26.9670	13.35 0.121	2014.41 69.6	0.024 270.3	167.8 2019.537	182.1 0.102 201.4 0.069	TOKOVININ
475 00345-0433	D 2 AB 0.4634	777. 1.111	2008.5 77.6	0.79 270.4	83.0 2019.540	75.6 0.252 76.7 0.270	TOKOVININ
- 00533-4530	B 644 0.7604	473.4 0.366	2460.04 51.4	0.233 343.5	341.6 2018.7296	356.4 0.279 357.2 0.279	JOSTIES & MASON
1339 01417-1119	STF 147 0.6202	580.5 2.374	2014.9 82.4	0.905 170.6	87.6 2019.540	289.8 0.125 308.1 0.087	TOKOVININ
1665 02060-2209	SEE 16 1.5776	228. 0.404	1971.9 101.8	0.585 133.1	33.8 2019.540	118.1 0.096 113.6 0.098	TOKOVININ
- 02415-7128	B 1923 3.6247	99.3 0.528	2011.43 116.0	0.370 252.6	222.6 2018.805	249.4 0.280 244.7 0.312	TOKOVININ
- 02517-5234	HU 1562 5.3239	67.6 0.259	2019.94 128.8	0.950 168.9	49.1 2019.534	24.1 0.062 212.3 0.014	TOKOVININ
2242 02572-2458	BU 741 AB 2.3799	151.3 1.343	1870.6 81.8	0.54 259.7	163.2 2019.540	354.0 0.391 358.3 0.304	TOKOVININ
2928 04008+0505	A 1937 7.8124	46.08 0.097	2014.74 40.8	0.535 0.4	31.9 2019.619	125.6 0.054 140.0 0.061	TOKOVININ
- 04070-1000	HDS 521 AB 17.0979	21.06 0.229	2017.94 121.7	0.711 77.3	220.4 2019.614	44.2 0.121 29.3 0.177	TOKOVININ

NEW ORBITS (continuation)

ADS α2000δ	Name n	P a	T i	e ω	Ω(2000) Last ob.	2019 2020	Author(s)
3053 04123+0939	STT 74 1.3211	272.5 0.728	1993.23 96.6	0.397 262.5	106.0 2018.9680	109.0 0.501 108.7 0.516	JOSTIES & MASON
- 04318-2407	RST 2347 2.9302	123. 0.173	2010.87 129.4	0.523 339.7	163.5 2019.619	123.7 0.086 117.3 0.086	TOKOVININ
- 04389-1207	HDS 599 7.1810	50.1 0.317	2004.18 76.5	0.817 281.2	153.9 2019.619	232.5 0.121 239.0 0.122	TOKOVININ
- 04445+3953	COU 1524 1.8000	200. 0.272	1996.93 78.5	0.232 187.9	22.7 2011.9436	230.0 0.094 233.2 0.087	DOCOBO & CAMPO
3434 04478+5318	HU 612 AB 1.5402	233.7 0.519	1899.6 53.6	0.541 146.1	23.5 2012.8880	2.8 0.721 3.2 0.723	DOCOBO & CAMPO
- 05190-2159	RST 2375 2.2250	161.80 0.316	2015.95 52.0	0.313 264.3	153.2 2018.0697	76.0 0.137 82.7 0.140	JOSTIES & MASON
- 06253+0130	FIN 343 4.6901	76.8 0.132	2020.49 161.9	0.36 153.7	165.3 2018.974	26.0 0.084 15.6 0.084	TOKOVININ
- 06426+3955	HDS 930 26.7618	13.45 0.078	2012.65 152.0	0.285 292.9	115.9 2014.9321	6.8 0.089 350.0 0.092	DOCOBO et al. (*)
6138 07305+0743	A 2869 2.5054	143.69 0.214	1995.89 155.5	0.773 48.1	304.7 2018.2490	110.6 0.245 109.5 0.251	JOSTIES & MASON
- 07598-4718	I 1070 AB 0.0816	4411. 1.777	2015.86 66.8	0.890 247.3	181.7 2018.844	61.2 0.088 67.5 0.084	TOKOVININ
- 08263-3904	B 1605 Ba,Bb 3.4841	103.33 0.199	1990.41 136.4	0.013 50.6	277.2 2018.0851	118.6 0.188 115.9 0.191	JOSTIES & MASON
7044 08507+0752	VDK 3 1.6278	221.2 2.180	2043.17 55.6	0.281 322.6	305.0 2018.2517	191.8 1.076 195.5 1.049	JOSTIES & MASON
- 11420-1701	TOK 384 Aa,Ab 11.4450	31.46 0.210	2016.14 25.1	0.68 233.5	190.1 2019.212	179.7 0.159 190.7 0.192	TOKOVININ
- 11585-2350	RST 3767 AB 2.9501	122.03 1.371	1999.12 84.1	0.954 85.1	255.7 2018.2520	93.9 0.566 94.5 0.566	JOSTIES & MASON

NEW ORBITS (continuation)

ADS α 2000 δ	Name n	P a	T i	e ω	Ω(2000) Last ob.	2019 2020	Author(s)
8574 12301-0653	A 2780 Aa,Ab 1.2137	297. 0.494	2018.728 119.6	0.932 116.3	174.4 2019.536	15.9 0.030 345.3 0.055	TOKOVININ
- 13527-1843	WSI 78 55.4807	6.489 0.035	1981.962 68.4	0.651 58.2	288.0 2018.0856	174.7 0.020 242.5 0.017	JOSTIES & MASON
- 13574-6229	FIN 370 19.1929	18.757 0.136	2005.849 144.3	0.218 0.2	269.6 2018.2495	44.5 0.133 26.8 0.119	JOSTIES & MASON
9473 15002+2129	HU 907 2.0785	173.2 0.259	2038.66 47.1	0.474 238.8	146.5 2019.4206	300.5 0.188 302.9 0.187	LING et al. (**)
9557 15160-0454	STF 3091 AB 2.5136	143.22 0.691	2027.99 93.0	0.799 104.7	225.2 2018.2498	226.2 0.422 226.0 0.398	JOSTIES & MASON
- 16059+1041	HDS 2273 Aa,Ab 10.9084	33.00 0.351	1992.98 35.1	0.426 234.6	160.6 2019.536	275.2 0.318 285.5 0.303	TOKOVININ
- 16140-2815	RST 1883 3.4533	104. 0.219	2006.8 118.1	0.779 166.0	288.5 2019.536	322.4 0.145 320.2 0.157	TOKOVININ
16384+3514	COU 985 4.3919	81.97 0.282	1986.18 59.1	0.270 34.5	78.9 2012.4434	265.4 0.343 266.9 0.342	DOCOBO & LING
10561 17283-2058	A 2244 AB 8.0311	44.83 0.170	2015.37 41.9	0.549 16.5	272.7 2019.534	21.6 0.089 37.0 0.106	TOKOVININ
10938 17586-1306	HU 190 2.2126	162.7 0.370	2011.4 180.0	0.422 0.0	15.4 2019.536	332.2 0.232 327.2 0.237	TOKOVININ
11530 18386+1632	HO 87 AB 3.0152	119.39 0.299	1972.37 19.6	0.599 78.8	210.5 2019.5363	95.3 0.440 96.4 0.442	JOSTIES & MASON
- 18480-1009	HDS2665 9.365	38.44 0.480	2023.47 56.4	0.411 195.7	36.4 2019.534	158.2 0.240 176.1 0.254	TOKOVININ
- 19167-4553	RST 4036 46.8737	7.680 0.244	1995.057 124.7	0.263 241.0	200.2 2019.3751	235.3 0.159 200.7 0.260	JOSTIES & MASON
12648 19358 +2316	A 163 1.6100	223.6 0.273	1977.39 124.9	0.284 302.4	35.6 2019.730	8.2 0.220 6.8 0.219	SCARDIA et al. (***)

NEW ORBITS (continuation)

ADS α 2000 δ	Name n	P a	T i	e ω	Ω (2000) Last ob.	2019 2020	Author(s)
12889 19464 +3344	STF 2576 FG 1.5203	236.8 2.076	1945.28 156.9	0.772 128.3	90.8 2019.522	155.5 3.088 155.1 3.105	SCARDIA et al. (***)
12909 19471-1953	BU 146 1.8171	198.12 1.166	2198.94 65.3	0.852 271.0	220.6 2018.2528	251.0 0.683 252.1 0.694	JOSTIES & MASON
- 20298+0941	JNN 282 AC 245.0	1.4694 0.110	2019.248 138.0	0.645 232.7	129.6 2019.539	30.3 0.089 84.1 0.152	TOKOVININ
- 20306+1349	HDS 2932 3.7895	95. 0.254	1991.3 82.0	0.392 337.3	152.2 2019.539	317.7 0.151 319.0 0.164	TOKOVININ
- 20462-2145	HD S2957 5.2349	68.8 0.799	2027.66 67.4	0.423 198.9	85.4 2019.529	211.9 0.308 223.2 0.335	TOKOVININ
14847 21198-2621	BU 271 AB 1.9033	189. 2.159	1841.5 65.2	0.631 190.5	244.7 2019.529	1.8 0.589 9.9 0.601	TOKOVININ
- 21364-4041	I 1444 2.1247	169. 0.308	2037.05 160.0	0.365 68.4	125.0 2019.539	131.7 0.244 128.7 0.240	TOKOVININ
15176 21395-0003	BU 1212 AB 7.3960	48.67 0.428	1972.09 55.1	0.867 293.6	141.1 2019.539	315.7 0.200 332.5 0.109	TOKOVININ
- 22220-3431	B 557 Aa,Ab 3.3343	108.0 0.356	2020.0253 112.6	0.893 72.8	190.0 2019.539	195.4 0.067 144.2 0.019	TOKOVININ
16056 22342-1841	HU 389 1.9360	186. 0.299	2006.32 50.6	0.417 158.8	122.5 2019.539	328.7 0.179 331.8 0.178	TOKOVININ

(*) DOCOBO, CAMPO & GÓMEZ

(**) LING, SCARDIA, PRIEUR, PANSECCHI, ARGYLE, ARISTIDI, ZANUTTA, ABE, BENDJOYA, RIVET, SUAREZ, & VERNET.

(***) SCARDIA, PRIEUR, PANSECCHI, LING, ARGYLE, ARISTIDI, ZANUTTA, ABE, BENDJOYA, RIVET, SUAREZ & VERNET

NEW COMPANIONS TO EXOPLANET HOST STARS

Reported by: Francisco Rica using GAIA-DR2

Astrometric data from GAIA-DR2

STAR	parallax (mas)	$\mu(\text{AR})$ (mas/yr)	$\mu(\text{DEC})$ (mas/yr)	Vrad (km/s)
WASP-14	6.14 ± 0.03	$+29.24 \pm 0.06$	-6.95 ± 0.06	-4.34 ± 0.91
Companion	6.08 ± 0.10	$+27.97 \pm 0.20$	-6.15 ± 0.18	-

Other values for 2015.5

	WASP-14 companion
magnitude	18.3
θ	$184^\circ 8'$
ρ	$11'' 54$

NEW DOUBLE STARS

Discovered by: Kacper Wierzchos with a CCD camera attached to the 0.2m SCT from Tucson, Arizona, USA

STAR	Coords. ICRS	Mag.	Epoch	θ ($^\circ$)	ρ ($''$)
WRS 11	17:57:26.72 -18:56:28.0	8.4-11.6	2019.584	208.0	4.44
WRS 12	18:17:31.49 -12:06:18.0	9.4-10.5	2019.637	133.5	8.81

ANNOUNCEMENTS

The availability of large astrometric catalogs and the admirable acumen of users has led to the republishing of the same measures and identification of the same “new” systems by multiple data-miners. This has significantly increased the amount of work needed to properly incorporate these data into the USNO double star catalogs. Therefore, in the future, data mining results will be added to the WDS and WDSS at the discretion of the catalogers. Furthermore, preference will be given to data prepared by those specifically associated with the original catalog project.

Brian D. Mason

Access to USNO double star catalog websites will not be possible for about the next six months. As such, we would like to remind the readers of our website mirrors:

- The Washington Double Star Catalog:
<http://www.astro.gsu.edu/wds/>
- Sixth Catalog of Orbits of Visual Binary Stars:
<http://www.astro.gsu.edu/wds/orb6.html>
- Second Catalog of Rectilinear Elements:
<http://www.astro.gsu.edu/wds/lin2.html>
- Fourth Catalog of Interferometric Measurements of Binary Stars:
<http://www.astro.gsu.edu/wds/int4.html>
- The Third Photometric Magnitude Difference Catalog:
<http://www.astro.gsu.edu/wds/dm3.html>
- IAU Commission G1 (Binary and Multiple Stars) webpage:
<http://www.astro.gsu.edu/wds/bs1/>
- Double Star Astronomy at the U.S. Naval Observatory:
http://www.astro.gsu.edu/wds/ds_history.html

If you have any questions or access issues, please contact either brian.d.mason@navy.mil or rachel.matson@navy.mil

Brian D. Mason

The deadline for contributions to Information Circular No. 200 is:

February 15th 2020

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