

## INTERNATIONAL ASTRONOMICAL UNION

## COMMISSION G1 (BINARY AND MULTIPLE STAR SYSTEMS)

## DOUBLE STARS INFORMATION CIRCULAR No. 203 (FEBRUARY 2021)

## NEW ORBITS

WDS HIP	Name ADS	P(yr) $\sigma_P$	T(yr) $\sigma_T$	e $\sigma_e$	a(") $\sigma_a$	i(°) $\sigma_i$	$\Omega$ (°) $\sigma_\Omega$	$\omega$ (°) $\sigma_\omega$	2021 2022	Author(s) Last obs.
00039-5750 306	I 700 –	185 ...	2067.4 ...	0.47 ...	0.56 ...	68.4 ...	80.7 ...	231.3 ...	179.4 0.248 182.6 0.248	TOK 2020.836
00089+2050 –	BEU 1 –	5.918 0.017	2018.92 0.17	0.105 0.023	0.144 0.005	145.7 3.3	83.6 6.6	240.4 17.2	70.4 0.152 21.6 0.136	TOK 2020.924
00100+0835 807	A 1801 120	229 ...	2020.0 ...	0.132 ...	0.435 ...	94.1 ...	195.9 ...	151.4 ...	18.0 0.338 17.8 0.344	TOK 2020.924
00160-1637 –	BWL 2 –	4.187 0.039	2021.145 0.057	0.433 0.090	0.108 0.007	63.6 2.1	111.8 5.2	98.0 4.8	154.4 0.038 312.7 0.093	TOK 2020.927
00219-2300 1732	RST 5493 BC 302	18.44 0.56	2019.53 0.45	0.831 0.034	0.134 0.020	92.1 1.7	91.3 1.5	213.6 16.0	91.6 0.103 91.2 0.145	TOK 2020.834
00258+1025 2035	HDS 57 –	96.7 ...	2019.26 ...	0.527 ...	0.179 ...	131.8 ...	52.9 ...	47.4 ...	349.5 0.062 331.4 0.061	TOK 2020.834
00310-3138 2433	HDS 69 –	61.2 ...	2010.9 ...	0.65 ...	0.135 ...	84.0 ...	100.1 ...	198.2 ...	97.1 0.130 97.6 0.141	TOK 2020.834
00348-5853 2726	I 439 –	350 ...	2020.64 ...	0.962 ...	0.693 ...	47.0 ...	116.3 ...	152.1 ...	318.4 0.032 14.9 0.053	TOK 2020.829
01077-1557 5295	HDS 148 –	15.51 1.00	2019.12 0.25	0.98 fixed	0.074 0.020	65.9 14.8	10.2 8.6	213.4 26.4	20.3 0.079 21.6 0.098	TOK 2020.834
01114+1526 –	BEU 2 –	62.6 ...	1993.9 ...	0.0 ...	0.468 ...	51.4 ...	120.5 ...	0.0 ...	285.1 0.444 289.0 0.454	TOK 2020.837
01205-1957 6273	TOK 203 –	11.68 0.55	2016.70 0.20	0.902 0.029	0.178 0.025	143.8 12.7	25.1 25.3	84.2 20.0	129.4 0.264 124.7 0.274	TOK 2020.834

**NEW ORBITS (continuation)**

<b>WDS</b>	<b>Name</b>	<b>P(yr)</b>	<b>T(yr)</b>	<b>e</b>	<b>a(")</b>	<b>i(°)</b>	<b>Ω(°)</b>	<b>ω(°)</b>	<b>2021</b>	<b>Author(s)</b>	
<b>HIP</b>	<b>ADS</b>	$\sigma_P$	$\sigma_T$	$\sigma_e$	$\sigma_a$	$\sigma_i$	$\sigma_\Omega$	$\sigma_\omega$	<b>2022</b>	<b>Last obs.</b>	
01520+1326	HU 1213	147.4	2019.24	0.895	0.155	131.9	45.9	96.3	217.1	0.034	TOK
8703	1482	13.0	0.22	0.013	0.015	4.9	8.4	5.9	205.5	0.044	2020.837
01554+0257	A 2407	184.4	1976.0	0.113	0.757	48.0	181.2	49.3	340.1	0.710	TOK
8958	1530	6.2	2.4	0.024	0.012	0.9	2.3	6.9	341.6	0.719	2014.762
02321-1515	TOK 382 Aa,Ab	21.0	2015.632	0.858	0.366	120.4	23.4	24.3	198.5	0.561	TOK
11783	–	1.9	0.062	0.016	0.012	1.5	1.6	3.0	196.7	0.597	2020.834
02415-1506	HDS 351	28.21	1993.61	0.674	0.168	87.7	204.2	150.8	278.2	0.003	TOK
12554	–	0.60	0.53	0.029	0.004	0.7	0.6	3.2	23.7	0.054	2020.834
02452-4344	BRG 15 Aa,Ab	28.3	2009.66	0.238	0.626	117.3	158.8	304.0	45.4	0.370	TOK
–	–	2.9	0.76	0.026	0.057	1.8	1.3	13.9	31.0	0.419	2020.834
03046-5119	TOK 428 Ba,Bb	18.5	2004.64	0.48	0.161	84.1	292.6	317.0	117.5	0.101	TOK
1413	–	...	...	...	...	...	...	...	130.8	0.032	2020.834
03076-0358	HDS 396	34.50	2021.01	0.647	0.317	131.8	40.6	259.1	147.5	0.076	TOK
14524	–	0.34	0.02	0.006	0.002	0.7	1.1	0.4	74.5	0.114	2020.824
03101-6355	FIN 361 Aa,Ab	200	2000.96	0.40	0.224	62.9	89.0	257.9	76.8	0.159	TOK
1470	–	...	...	...	...	...	...	...	78.3	0.164	2020.924
03213+1038	HEI 449	32.41	2001.35	0.806	0.165	114.6	55.6	180.4	52.5	0.287	TOK
15633	–	0.64	0.13	0.012	0.001	1.9	1.3	3.8	51.6	0.280	2020.837
03260-3558	B 1449 BC	41.56	2002.59	0.345	0.178	83.2	25.6	100.5	294.4	0.028	TOK
–	–	0.60	1.35	0.064	0.010	0.9	0.9	7.3	328.5	0.034	2020.824
03339-3105	B 52	19.408	2016.226	0.355	0.222	85.1	140.9	3.4	315.1	0.159	TOK
16628	–	0.045	0.076	0.002	0.001	0.2	0.2	1.6	317.2	0.213	2020.927
03513+2621	A 1830 AB	345	1983.87	0.957	0.619	91.8	195.3	243.0	193.3	0.446	TOK
–	2811	...	...	...	...	...	...	...	193.3	0.451	2018.975
04102+1722	HEI 35	29.96	2000.513	0.833	0.287	116.9	165.1	34.1	320.2	0.367	TOK
19472	–	0.20	0.017	0.003	0.002	0.4	0.6	1.2	318.3	0.341	2020.927

**NEW ORBITS (continuation)**

WDS HIP	Name ADS	P(yr)	T(yr)	e	a(")	i(°)	Ω(°)	ω(°)	2021	Author(s)	
		$\sigma_P$	$\sigma_T$	$\sigma_e$	$\sigma_a$	$\sigma_i$	$\sigma_\Omega$	$\sigma_\omega$	2022	Last obs.	
04163-6057 19917	GLE 1 –	295.78 15.00	1995.78 0.80	0.518 0.009	0.672 0.150	32.4 1.5	130.5 4.0	15.9 1.0	234.1 236.5	0.402 0.411	D & L 2019.9496
04268+1052 20751	PAT 8 –	19.77 0.27	2017.39 0.11	0.649 0.040	0.201 0.010	63.0 2.2	119.6 1.5	273.7 0.9	150.5 160.3	0.161 0.160	TOK 2020.835
04344-6612 21305	HDS 595 –	120 ...	2028.27 ...	0.172 ...	0.261 ...	64.6 ...	122.2 ...	110.0 ...	188.0 196.7	0.102 0.097	TOK 2020.829
04384+1733 –	PAT 13 –	22.96 0.15	1999.98 0.07	0.611 0.015	0.210 0.005	36.2 2.5	161.7 3.1	241.4 2.3	308.6 339.0	0.137 0.104	TOK 2020.927
04409-4230 21794	HDS 603 –	90 ...	2014.09 ...	0.567 ...	0.129 ...	35.0 ...	52.4 ...	118.1 ...	254.3 260.5	0.083 0.088	TOK 2020.837
04460-6605 22150	HDS 613 –	55 ...	2033.4 ...	0.362 ...	0.242 ...	104.1 ...	47.9 ...	99.0 ...	53.7 52.2	0.241 0.240	TOK 2020.829
04571-1338 –	A 2625 3559	178.2 42.5	2022.16 1.02	0.664 0.029	0.177 0.014	51.0 7.8	157.8 14.0	42.5 5.4	175.8 186.1	0.056 0.051	TOK 2020.837
05112-0833 24156	GOE 1 Aa,Ab –	52 ...	2007.38 ...	0.77 ...	0.137 ...	105.2 ...	-2.6 ...	162.8 ...	8.5 7.7	0.165 0.174	TOK 2020.824
05301-3228 –	B 1946 –	64.4 7.0	2022.54 1.20	0.84 0.14	0.116 0.034	24.2 40.8	138.1 136.3	43.9 146.8	86.1 129.4	0.038 0.023	TOK 2020.837
05487-1419 27444	HDS 781 –	105 ...	1991.94 ...	0.277 ...	0.195 ...	46.9 ...	100.1 ...	205.8 ...	81.5 83.4	0.205 0.210	TOK 2020.927
06032+1922 28671	HDS 823 Aa,Ab –	65 ...	2028.04 ...	0.95 ...	0.323 ...	99.3 ...	57.6 ...	77.9 ...	118.8 111.3	0.062 0.062	TOK 2020.837
06109+1020 29316	KAM 1 AB –	78.09 1.32	2015.807 0.057	0.952 0.004	1.520 0.044	25.6 2.7	147.7 11.2	53.4 11.2	356.2 358.1	1.167 1.297	TOK 2020.925
06298-5014 30953C	HDO 195 CD –	101.00 1.50	2004.27 0.30	0.246 0.004	0.536 0.008	30.8 3.5	115.3 1.5	10.0 1.5	213.9 218.5	0.429 0.438	D & L 2019.9471
06359-3605 31509	FIN 19 Aa,Ab –	28.69 0.10	1993.42 0.12	0.438 0.014	0.309 0.002	99.4 0.2	160.7 0.3	288.3 0.7	316.0 193.3	0.068 0.051	TOK 2020.927

**NEW ORBITS (continuation)**

<b>WDS HIP</b>	<b>Name ADS</b>	<b>P(yr) <math>\sigma_P</math></b>	<b>T(yr) <math>\sigma_T</math></b>	<b>e <math>\sigma_e</math></b>	<b>a(") <math>\sigma_a</math></b>	<b>i(°) <math>\sigma_i</math></b>	<b><math>\Omega</math>(°) <math>\sigma_\Omega</math></b>	<b><math>\omega</math>(°) <math>\sigma_\omega</math></b>	<b>2021 2022</b>	<b>Author(s) Last obs.</b>
06485-1226 49572	A 2935 5477	68.90 0.40	1974.52 0.27	0.0 fixed	0.223 0.001	125.3 0.6	152.8 0.6	0.0 fixed	284.5 0.153 277.7 0.146	TOK 2020.925
06584-3407 33558	HDS 970 –	59.7 8.3	2020.83 0.11	0.756 0.012	0.163 0.012	162.8 12.3	227.1 62.2	226.9 55.5	350.2 0.039 295.5 0.050	TOK 2020.837
07053-3409 34179	JSP 132 AB –	440.4 ...	1949.36 ...	0.366 ...	0.699 ...	71.5 ...	39.3 ...	210.0 ...	19.3 0.455 19.8 0.464	TOK 2019.860
07061-1843 –	RST 2453 –	174.7 ...	2061.05 ...	0.428 ...	0.189 ...	110.6 ...	307.6 ...	239.3 ...	171.2 0.101 169.0 0.103	TOK 2020.925
07171-1202 35261	A 2123 AB 5956	80.94 1.24	1979.51 0.12	0.890 0.008	0.462 0.018	71.4 0.8	135.8 0.8	73.4 1.1	3.8 0.360 4.9 0.355	TOK 2019.947
07260-4601 36076	RST 4851 –	250 ...	2039.78 ...	0.093 ...	0.171 ...	114.5 ...	228.6 ...	120.0 ...	144.4 0.066 140.3 0.065	TOK 2020.924
07294-1500 –	TOK 391 Ca,Cb 6126	5.45 0.22	2017.56 0.38	0.483 0.054	0.081 0.007	81.2 2.7	308.7 1.8	160.7 21.4	308.7 0.114 315.5 0.067	TOK 2021.078
07481-5425 36068	HDS 1103 –	70 ...	2029.23 ...	0.30 ...	0.222 ...	113.5 ...	318.5 ...	172.1 ...	205.8 0.079 191.5 0.086	TOK 2020.835
07534-5239 38526	RST 3557 –	220 ...	2030.76 ...	0.20 ...	0.463 ...	97.4 ...	123.6 ...	309.0 ...	149.7 0.106 146.2 0.120	TOK 2020.925
07595-3918 39061	HDS 1134 –	121.6 ...	1994.07 ...	0.541 ...	0.634 ...	126.3 ...	163.5 ...	157.9 ...	214.8 0.511 212.6 0.530	TOK 2020.924
08070-2954 39713	B 1581 –	250 ...	2028.11 ...	0.507 ...	0.430 ...	110.1 ...	303.2 ...	133.0 ...	190.4 0.083 179.7 0.089	TOK 2019.953
08138-0738 –	ELP 2 –	10.31 0.14	2019.51 0.07	0.424 0.012	0.111 0.002	119.0 1.4	306.5 1.4	168.5 3.2	37.0 0.048 346.1 0.083	TOK 2020.996
08317+1924 41824	BEU 12 Aa,Ab –	66.0 ...	1993.29 ...	0.653 ...	0.977 ...	78.3 ...	152.5 ...	273.7 ...	221.8 0.342 228.9 0.331	TOK 2020.996
08317+1924 41824	DEL 1 Ba,Bb –	63.1 ...	1989.50 ...	0.327 ...	0.767 ...	117.0 ...	11.6 ...	31.1 ...	176.3 0.905 174.5 0.882	TOK 2020.996

**NEW ORBITS (continuation)**

<b>WDS HIP</b>	<b>Name ADS</b>	<b>P(yr) <math>\sigma_P</math></b>	<b>T(yr) <math>\sigma_T</math></b>	<b>e <math>\sigma_e</math></b>	<b>a(") <math>\sigma_a</math></b>	<b>i(°) <math>\sigma_i</math></b>	<b><math>\Omega</math>(°) <math>\sigma_\Omega</math></b>	<b><math>\omega</math>(°) <math>\sigma_\omega</math></b>	<b>2021 2022</b>	<b>Author(s) Last obs.</b>
09228-0950 45999	A 1342 AB 7334	56.61 0.22	2013.51 0.10	0.0 fixed	0.166 0.001	66.7 0.5	24.9 0.3	0.0 fixed	48.3 0.122 53.4 0.111	TOK 2020.996
09510-8004 48320	HDS 1421 –	107.3 22.3	2013.84 0.33	0.614 0.054	0.186 0.018	31.1 6.5	132.7 7.2	125.3 5.6	343.3 0.110 349.4 0.116	TOK 2021.078
10083+3136 –	KUI 48 AB 7651	17.835 0.097	1989.053 0.116	0.401 0.005	0.155 0.001	84.4 0.6	169.7 0.4	186.2 2.6	181.8 0.069 216.2 0.019	TOK 2015.183
10412-3654 52296	HDS 1528 –	60.3 ...	2030.14 ...	0.217 ...	0.948 ...	150.0 ...	148.7 ...	195.8 ...	27.3 0.775 19.7 0.769	TOK 2019.947
10490-7449 –	HEI 498 –	60 ...	2022.80 ...	0.105 ...	0.118 ...	120.1 ...	294.1 ...	170.7 ...	126.0 0.100 121.9 0.103	TOK 2019.953
11418+0508 57058	HIP 57058 –	3.944 0.016	2017.98 0.04	0.313 0.026	0.088 0.002	38.0 0.0	100.0 3.8	288.4 3.9	271.4 0.093 48.8 0.052	TOK 2020.019
12186-1424 60022	YSC 44 –	17.19 0.90	2011.66 0.06	0.630 0.029	0.072 0.002	105.6 1.0	54.5 1.8	126.3 3.7	71.7 0.081 68.5 0.087	TOK 2020.019
13234+5754 65327	HDS 1879 Aa,Ab –	15.90 0.19	2014.61 0.06	0.589 0.017	0.274 0.005	88.6 0.5	214.7 0.5	126.9 1.9	211.7 0.182 212.5 0.236	TOK 2011.441
13288+5956 65756	STF 1752 AB 8919	500 ...	2173.8 ...	0.60 ...	1.236 ...	118.0 ...	164.7 ...	231.8 ...	103.6 0.910 103.1 0.905	TOK 2017.406
13450+0206 67086	HDS 1935 –	200 ...	1976.70 ...	0.54 ...	0.900 ...	128.8 ...	157.8 ...	325.1 ...	48.3 0.687 46.7 0.699	TOK 2019.140
13527-1843 67744	WSI 78 –	6.222 0.002	1982.443 0.010	0.468 0.006	0.030 0.001	72.1 4.1	125.3 1.7	183.5 0.9	103.8 0.021 119.5 0.040	TOK 2018.086
13535-3540 67819	HWE 28 AB –	368.14 20.00	1958.65 0.25	0.769 0.008	1.529 0.015	74.6 1.0	112.8 1.0	91.0 1.0	316.9 1.011 317.2 1.009	D & L 2019.6124
14453-3609 72140	I 528 AB –	31.80 0.34	2022.31 0.43	0.641 0.047	0.086 0.006	58.2 3.1	171.7 5.3	77.1 2.1	175.1 0.042 210.7 0.022	TOK 2021.078
15462-2804 77235	BU 620 AB 9775	700 ...	2175.65 ...	0.859 ...	1.50 ...	86.3 ...	6.3 ...	89.5 ...	354.3 0.652 354.4 0.654	TOK 2021.078

**NEW ORBITS (continuation)**

<b>WDS HIP</b>	<b>Name ADS</b>	<b>P(yr) <math>\sigma_P</math></b>	<b>T(yr) <math>\sigma_T</math></b>	<b>e <math>\sigma_e</math></b>	<b>a(") <math>\sigma_a</math></b>	<b>i(°) <math>\sigma_i</math></b>	<b><math>\Omega</math>(°) <math>\sigma_\Omega</math></b>	<b><math>\omega</math>(°) <math>\sigma_\omega</math></b>	<b>2021 2022</b>	<b>Author(s) Last obs.</b>	
15462-2804 –	KOH 49 Ca,Cb 9775	9.44 0.28	2023.01 1.05	0.16 0.08	0.077 0.006	146.4 13.1	132.9 16.0	23.9 23.7	200.9 157.0	0.065 0.066	TOK 2021.078
15468-5808 77294	I 974 Aa,Ab –	210.7 37.8	1980.0 1.8	0.73 0.07	0.435 0.030	79.8 1.7	5.2 0.6	199.1 5.6	3.0 3.1	0.527 0.535	TOK 2020.112
18055-6312 88607	RST 959 Aa,Ab –	94.7 2.3	2046.38 1.50	0.234 0.019	0.348 0.006	20.0 0.0	232.3 3.2	0.0 0.0	109.3 112.6	0.358 0.352	TOK 2019.536
18078+2606 88818	CHR 67 Aa,Ab –	16.579 0.041	1986.411 0.090	0.933 0.013	0.177 0.018	37.3 8.7	33.3 10.1	107.2 8.9	295.8 304.4	0.128 0.173	TOK 2019.375
18191-3509 89766	OL 18 –	319.4 ...	2045.22 ...	0.283 ...	1.746 ...	86.6 ...	118.6 ...	190.0 ...	295.9 296.1	1.061 1.081	TOK 2020.836
18235-3844 –	I 1364 –	500 ...	2123.0 ...	0.0 ...	0.321 ...	79.7 ...	31.5 ...	0.0 ...	0.5 1.6	0.107 0.110	TOK 2019.529
19243+2032 95389	HDS 2752 AB –	60 ...	1985.47 ...	0.694 ...	0.310 ...	118.6 ...	68.4 ...	99.1 ...	124.9 122.4	0.281 0.284	TOK 2019.375
19411+1349 96840	KUI 93 –	65.57 1.30	1963.4 2.6	0.947 fixed	0.101 0.002	64.5 2.5	132.1 13.8	357.6 33.2	318.2 318.9	0.111 0.102	TOK 2018.485
19466+0703 97312	TOK 368 –	30.0 ...	2013.34 ...	0.223 ...	0.194 ...	59.8 ...	54.1 ...	140.3 ...	299.0 317.8	0.111 0.107	TOK 2020.823
20202-3435 100266	I 1416 –	20.29 0.14	2000.31 0.23	0.887 0.036	0.167 0.007	112.9 2.5	140.0 4.7	38.5 5.8	332.8 319.1	0.046 0.125	TOK 2020.823
20210-1447 100345	BLA 7 Aa,Ab –	3.7621 0.0003	2015.642 0.009	0.452 0.009	0.049 0.001	75.0 2.0	43.6 1.3	124.2 1.0	11.6 36.8	0.031 0.058	TOK 2019.856
20210-1447 100345	BAR 12 Ba,Bb –	400 ...	2065 ...	0.458 ...	0.689 ...	125.2 ...	84.7 ...	137.1 ...	53.2 52.0	0.438 0.428	TOK 2020.823
20248-1943 100685	HDS 2919 –	44.88 1.47	2020.99 0.08	0.625 0.009	0.265 0.003	53.6 1.5	74.2 1.6	183.5 4.4	256.5 285.3	0.099 0.090	TOK 2020.823
20286-0426 100998	TOK 700 –	7.327 0.233	2017.954 0.038	0.817 0.015	0.069 0.003	152.4 6.6	97.7 11.7	47.0 12.2	239.5 230.8	0.117 0.116	TOK 2020.823

**NEW ORBITS (continuation)**

<b>WDS HIP</b>	<b>Name ADS</b>	<b>P(yr) <math>\sigma_P</math></b>	<b>T(yr) <math>\sigma_T</math></b>	<b>e <math>\sigma_e</math></b>	<b>a(") <math>\sigma_a</math></b>	<b>i(°) <math>\sigma_i</math></b>	<b><math>\Omega</math>(°) <math>\sigma_\Omega</math></b>	<b><math>\omega</math>(°) <math>\sigma_\omega</math></b>	<b>2021 2022</b>	<b>Author(s) Last obs.</b>
20310-2907 101211	CHR 185 –	100 ...	2022.61 ...	0.90 ...	0.160 ...	119.2 ...	114.1 ...	348.2 ...	256.2 0.030 192.1 0.012	TOK 2020.823
20311+3333 –	COU 1962 –	20.465 0.067	1999.128 0.177	0.516 0.013	0.199 0.004	75.4 0.7	116.0 0.7	307.1 2.2	121.5 0.120 132.4 0.111	TOK 2008.545
20552-3008 103264	HDS 2980 –	38.74 2.38	2019.08 0.12	0.650 0.015	0.093 0.005	39.9 5.9	152.1 7.3	82.1 7.5	319.5 0.048 335.0 0.062	TOK 2020.828
20557-6609 103302	HDS 2981 –	19.32 ...	2023.33 ...	0.35 ...	0.099 ...	156.4 ...	16.9 ...	191.1 ...	264.8 0.076 234.6 0.069	TOK 2020.769
21053+0044 104090	HDS 3007 –	26.0 ...	2005.24 ...	0.50 ...	0.117 ...	116.9 ...	267.1 ...	127.1 ...	286.5 0.142 282.9 0.145	TOK 2019.375
21223+5734 105522	A 764 AB 14296	470 ...	1901.80 ...	0.552 ...	1.033 ...	10.0 ...	110.8 ...	125.2 ...	20.9 1.289 21.3 1.295	TOK 2015.500
21426+0233 107181	HDS 3092 –	300 ...	1934.92 ...	0.0 ...	0.894 ...	78.8 ...	15.1 ...	0.0 ...	155.7 0.266 158.2 0.280	TOK 2020.823
21492-3538 107715	B 1013 –	38.62 0.95	2021.90 0.42	0.736 0.102	0.150 0.005	108.2 3.3	109.6 4.5	126.3 2.8	81.0 0.030 306.7 0.030	TOK 2020.834
22240+0612 110574	RAO 27 Aa,Ab –	11.24 0.36	2015.88 0.10	0.403 0.014	0.097 0.002	94.7 0.8	150.7 0.6	181.4 3.6	151.2 0.135 149.9 0.134	TOK 2020.834
22284-2553 110922	WSI 137 Aa,Ab –	38 fixed	2007.12 0.56	0.574 0.069	0.490 0.033	72.1 1.5	39.8 2.1	135.3 4.7	10.4 0.402 13.6 0.440	TOK 2020.834
22400-8315 111898	HDS 3219 –	13.31 0.20	2011.34 0.50	0.207 0.016	0.088 0.002	41.4 3.1	165.7 5.2	341.8 15.8	18.9 0.085 45.4 0.068	TOK 2020.836
23067-2345 114119	HDS 3293 Aa,Ab –	60.74 2.13	2017.033 0.023	0.865 0.008	0.404 0.012	72.2 0.9	178.5 0.4	95.8 0.6	21.1 0.182 25.3 0.191	TOK 2020.823
23067-6605 120306	HDS 3294 AB –	150 ...	2020.238 ...	0.77 ...	0.516 ...	81.4 ...	261.3 ...	110.7 ...	72.0 0.083 77.6 0.126	TOK 2020.924
23084-2849 114254	HDS 3295 AB –	60.90 3.26	1999.10 0.95	0.227 0.023	0.308 0.006	64.3 1.2	146.1 1.2	188.2 7.3	134.3 0.332 136.4 0.344	TOK 2020.823

**NEW ORBITS (continuation)**

<b>WDS HIP</b>	<b>Name ADS</b>	<b>P(yr) <math>\sigma_P</math></b>	<b>T(yr) <math>\sigma_T</math></b>	<b>e <math>\sigma_e</math></b>	<b>a(") <math>\sigma_a</math></b>	<b>i(°) <math>\sigma_i</math></b>	<b><math>\Omega</math>(°) <math>\sigma_\Omega</math></b>	<b><math>\omega</math>(°) <math>\sigma_\omega</math></b>	<b>2021 2022</b>	<b>Author(s) Last obs.</b>
23186+6807 115088	STF 3001 AB 16666	1500. ...	1758. ...	0.865 ...	6.406 ...	66.0 ...	141.6 ...	288.3 ...	223.9 3.393 224.1 3.399	D & C 2021.0511
23326-4520 116193	RST 3325	122.3 5.3	1996.63 0.40	0.646 0.021	0.198 0.005	61.5 1.8	102.2 1.6	255.0 1.9	122.1 0.199 123.1 0.201	TOK 2020.927
23480-1930 117377	HDS 3380 -	91.3 ...	2020.23 ...	0.508 ...	0.188 ...	42.9 ...	69.8 ...	20.4 ...	93.7 0.087 105.8 0.084	TOK 2020.834

TOK = TOKOVININ

D & L = DOCOBO & LING

D & C = DOCOBO & CAMPO

**NEW COMPANIONS TO EXOPLANET HOST STARS**

Reported by: Francisco Rica using GAIA-DR2

**Astrometric data from GAIA-DR2**

<b>STAR</b>	<b>parallax (mas)</b>	<b><math>\mu</math>(AR) (mas/yr)</b>	<b><math>\mu</math>(DEC) (mas/yr)</b>	<b>Vrad (km/s)</b>
HAT-P-3	$7.40 \pm 0.03$	$-19.75 \pm 0.03$	$-24.01 \pm 0.04$	$-23.43 \pm 0.42$
Companion	$6.99 \pm 0.09$	$-19.36 \pm 0.11$	$-23.47 \pm 0.12$	-

**Other values for 2015.5**

	<b>HAT-P-3 companion</b>
magnitude	18.5
$\theta$	170°
$\rho$	9"80



## NEW DOUBLE STARS

Discovered by André Debackère using LCO global telescope network.

- FTN : Faulkes Telescope North T2m, Haleakala, Hawaii, LCO

- FTS : Faulkes Telescope South T2m, Siding Spring, Australia, LCO

STAR	Precise Coord	GAIA-DR2	G Mag.	Plx e-plx	pmRA e-pmRA	pmDE e-pmDE	Epoch	$\theta$ ( $^{\circ}$ )	$\rho$ ( $''$ )	Obs
DBR 321 A	155301.460+125512.42	1191503852960624640	14.44	3.8108 0.0291	-38.736 0.045	18.360 0.035	2019.639	323.82 $\pm 0.20$	3.141 $\pm 0.011$	1FTN
B	155301.334+125514.92	1191503852960684160	15.02	3.8835 0.0465	-38.516 0.077	18.524 0.057				
DBR 322 A	183348.499+423502.52	2111672627300946560	13.00	2.7059 0.0159	0.995 0.030	1.028 0.031	2019.637	130.15 $\pm 0.09$	2.453 $\pm 0.004$	1FTN
B	183348.670+423500.93	2111672627300946688	13.61	2.7077 0.0145	1.175 0.026	1.384 0.028				
DBR 323 A	204329.169-252336.25	6806095590049064960	14.37	0.8637 0.0348	0.075 0.055	-3.321 0.032	2019.777	175.19 $\pm 0.10$	2.225 $\pm 0.006$	1FTS
B	204329.181-252338.47	6806095590049064832	14.48	0.8352 0.0354	0.099 0.056	-3.170 0.033				

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The deadline for contributions to Information Circular No. 204 is:

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