

INTERNATIONAL ASTRONOMICAL UNION COMMISSION 26

(DOUBLE STARS)

INFORMATION CIRCULAR No. 178 (OCTOBER 2012)

NEW ORBITS

ADS α 2000 δ	Name n	P a	T i	e ω	Ω (2000) Last ob.	2012 2013	Author(s)
449 00324+0657	MCA 1 Aa,Ab 13.1339	27.41 0.160	1988.97 111.2	0.807 13.0	105.3 2008.7672	267.1 0.146 262.8 0.115	MASON & HARTKOPF
1992 02382+4604	A 1278 3.3152	108.59 0.234	2000.64 104.7	0.711 73.5	131.0 2010.8915	305.9 0.187 305.1 0.194	DOCOBO & CAMPO
- 02396-1152	FIN 312 135.7876	2.6512 0.1063	2012.3109 24.2	0.230 40.8	90.2 2009.7535	68.8 0.090 251.3 0.112	DOCOBO & ANDRADE
- 04093-2025	RST 2333 1.6000	225.0 0.498	1949.2 80.9	0.256 358.7	15.4 2010.065	182.9 0.327 183.4 0.338	DOCOBO & CAMPO
- 04163-6057	GLE 1 1.2153	296.3 0.666	1995.9 31.8	0.523 19.0	127.2 2010.8915	208.1 0.334 211.5 0.340	DOCOBO & LING
4038 05272+1758	MCA 19 Aa,Ab 22.7273	15.84 0.077	1982.80 109.2	0.820 315.3	251.5 2007.8260	77.0 0.087 72.7 0.066	MASON & HARTKOPF
4038 05272+1758	MCA 19 Aa,Ab 11.7878	30.54 0.111	1982.20 101.4	0.046 61.0	86.21 2007.8260	72.3 0.068 63.8 0.050	MASON & HARTKOPF
- 08286+3502	WOR 19 7.1801	50.14 0.604	2000.13 136.0	0.184 123.7	63.0 2011.3484	202.5 0.522 195.6 0.513	RICA & ZIRM
- 09123+1500	FIN 347 Aa,Ab 133.1213	2.7043 0.117	1979.9904 122.4	0.417 351.5	318.3 2007.1857	90.8 0.072 189.7 0.078	MASON & HARTKOPF (*)
- 09474+1134	MCA 34 23.5556	15.28 0.111	1973.55 75.9	0.318 23.9	203.0 2007.1857	30.1 0.131 34.6 0.112	MASON & HARTKOPF
- 11053-2718	FIN 47 AB 47.3491	7.603 0.137	1983.460 95.0	0.353 342.9	224.7 2009.2653	41.0 0.123 0.70 0.014	MASON & HARTKOPF

NEW ORBITS (continuation)

ADS α 2000 δ	Name n	P a	T i	e ω	Ω (2000) Last ob.	2012 2013	Author(s)
8739 13007+5622	BU 1082 3.4266	105.06 1.220	1921.53 49.6	0.405 113.2	94.8 2012.413	105.9 1.042 108.8 0.996	SCARDIA et al. (**)
8862 13198+4747	HU644 7.3876	48.73 1.518	1968.41 94.5	0.214 72.4	91.2 2010.2070	89.9 1.249 89.0 1.137	MASON & HARTKOPF
- 14077-4952	SLR 19 0.9812	366.9 1.420	1884.3 57.0	0.119 274.4	292.2 2009.260	325.1 1.173 325.9 1.165	SCARDIA PANSECCHI
9532 15122-1948	B 2351 Aa,Ab 15.3453	23.46 0.129	1971.13 154.2	0.244 341.5	174.50 2009.2657	315.3 0.132 301.4 0.121	MASON & HARTKOPF
- 15313-3349	HWE 78 AC 0.2862	1258. 1.689	2216. 157.4	0.343 16.7	40.0 2011.3028	120.5 1.447 120.2 1.444	LING
9781 15457+5040	HU 657 0.9690	371.5 0.581	1974.3 123.9	0.740 202.7	162.0 2008.4611	178.7 0.452 178.1 0.462	DOCOBO & LING
- 16057-3252	SEE 264 AB 2.3919	150.51 0.896	1976.01 140.5	0.138 29.5	154.3 2012.3539	15.5 0.795 13.3 0.808	DOCOBO & LING
- 17372+2754	KUI 83 AB 14.9334	24.107 0.286	1961.173 162.5	0.205 206.8	157.1 2008.5460	253.5 0.236 234.0 0.250	MASON & HARTKOPF
10954 17591+3228	HU 1185 1.5000	240.0 0.383	1951.4 49.1	0.650 324.2	14.6 2009.442	141.0 0.378 141.8 0.383	DOCOBO & CAMPO
- 19035-6845	FIN 357 25.4255	14.159 0.154	2018.474 155.9	0.355 205.8	116.0 2008.7724	84.7 0.202 71.5 0.192	DOCOBO & ANDRADE
- 19411+1349	KUI 93 5.5240	65.17 0.163	2026.36 67.5	0.985 300.3	164.3 2010.5909	316.0 0.168 316.4 0.164	DOCOBO & LING
12880 19450+4508	STF 2579 AB 0.3921	918.1 3.408	1884.5 146.9	0.520 129.7	95.7 2012.687	218.8 2.702 218.3 2.710	SCARDIA & et al. (**)
- 20154+6412	MLR 60 AB 7.2000	50.00 0.239	1963.90 107.5	0.035 68.2	176.0 2008.648	153.9 0.148 147.3 0.127	DOCOBO & ANDRADE
- 22553-4828	I 22 AB 1.8178	198.04 0.965	2001.69 87.3	0.763 256.7	175.0 2009.6679	175.3 0.532 175.5 0.561	ZIRM

NEW ORBITS (continuation)

ADS α 2000 δ	Name n	P a	T i	e ω	Ω (2000) Last ob.	2012 2013	Author(s)
17111 23568+0444	A 2100 4.0472	88.95 0.274	1990.94 152.0	0.768 66.6	116.0 2008.8875	255.5 0.366 254.2 0.373	MASON & HARTKOPF

(*) Combined solution orbit. $Mass_a = 0.983 \pm 0.045M_{\odot}$, $Mass_b = 0.903 \pm 0.049M_{\odot}$, orbital parallax = 48.78 ± 2.36 mas.

(**) SCARDIA, PRIEUR, PANSECCHI & ARGYLE

ANNOUNCEMENTS

- Presentations from the Commission 26 meeting at the IAU General Assembly in Beijing are available online at:

<http://ad.usno.navy.mil/wds/dsl/Comm26/Beijing/beijing.html>

Brian Mason

- TYCHO 40-501-1: A possible new double (triple) star

On Oct. 23rd 2004 (2004.813 in Besselian Epoch), while testing the adaptive optics for the Galileo National Telescope (TNG) at La Palma (Canary Islands), R. Ragazzoni, M. Ceconi, S. Desidera, J. Farinato, and A. Ghedina, discovered that the star Tycho 40-501-1 (R.A. $2^h2^m23^s548$; Dec. $+4^{\circ} 19' 19''.78$; mv 10.72) has a companion in position angle $\theta = 127^{\circ}.5$ with separation $\rho = 0''.35$. A check performed with the SIMBAD database allowed to realize that there is a third, fainter, companion distant $\rho = 14''.3$, in position angle 339° .

Further observations, always made with the adaptive optics of the TNG on Nov. 09th 2006 and Aug. 16th 2007, confirmed the presence of the nearest companion in the same position. Its estimated visual magnitude is mv=12.0 whereas the one of the most distant companion is mv=13.5. The SIMBAD database reports for TYCHO 40-501-1 also the magnitude in V (10.72) and B (11.49). Should such star belong to the main sequence, then the colour index $B-V = 0.77$ would allow to assign to TYCHO 40-501-1 the spectral type K0V to which corresponds an absolute magnitude $M_v=6$. On the other hand, spectra taken with SARG (the TNG cross dispersed echelle spectrograph) by A. Fiorenzano on November 10th 2006 and August 14th 2007, with resolution 144,000, denote that the object is a star of spectral

type G with a low rotational speed. The small discrepancy with the colours might be likely due to reddening. So, the precise spectral class remains somewhat uncertain. However, it should be between G and early K. Now, by applying the relation that bind together m_v , M_v , and the distance d from the Sun, a $0''.114$ parallax results. Further, in the simplified hypothesis that the radius vector connecting the two stars is orthogonal to the line of sight, the distance between the two components turns out to be 30 AU. For what above, the system TYCHO 40-501-1 AB could well be a physical couple. Of course, further observations will be necessary to confirm such conclusion.

Recapitulation:

TYCHO 40-501-1 AB 2004.813 $0^{\circ}35$ $127^{\circ}5$ 10.7 12.0

TYCHO 40-501-1 AC 2004.813 $14^{\circ}3$ $339^{\circ}0$ 10.7 13.5

P.S. - As the adaptive optics of the TNG have been cast off since some years, it is no more possible to observe again this couple with said telescope in order to catch the possible orbital motion.

M. Scardia, L. Pansecchi, R. Ragazzoni, M. Cecconi, S. Desidera , J. Farinato, A. Fiorenzano and A. Ghedina

Errata in Information Circular No. 177

In the entry for WDS 20157+4339 (A 2095 AB), the value of the $\Omega(2000)$ should be $147^{\circ}5$, rather than $101^{\circ}6$

The deadline for contributions to Information Circular No. 179 is:

February 15th 2013

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