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## Orbital elements of double stars: ADS 2616, 10140, 14748 and 15236

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## INTERNATIONAL ASTRONOMICAL UNION COMMISSION 26

## (DOUBLE STARS)

## INFORMATION CIRCULAR No. 146 (FEBRUARY 2002)

## NEW ORBITS

ADS $\alpha$ 2000 $\delta$	Name n	P a	T i	e $\omega$	$\Omega$ (2000) Last ob.	2002 2003	Author(s)
492 00357+3429	HU 1011 0°7599	473 <sup>y</sup> 78 0"387	2278.94 134°6	0.479 260°9	155°7 1997.689	95°3 0"42 94.9 0.42	OLEVIC & JOVANOVIC
2616 03344+2428	STF 412 AB 0.6894	522.16 0.625	1911.62 157.2	0.679 238.1	13.0 2000.107	356.2 0.70 355.8 0.70	SCARDIA et al. (*)
04142+2813	V 773 Tau 2.8800	125.00 0.249	1998.62 63.8	0.643 299.4	101.1 2001.841	97.4 0.104 102.5 0.114	DOCOBO et al. (**)
04148+2813	FO Tau 1.8557	194.00 0.219	2023.12 38.7	0.449 206.9	83.8 2001.841	208.7 0.144 211.7 0.143	DOCOBO et al. (**)
04220+2658	FS Tau 1.3284	271.00 0.272	2035.73 19.7	0.168 138.0	18.0 2001.110	94.7 0.231 96.4 0.230	DOCOBO et al. (**)
04271+2542	DF Tau 3.8793	92.80 0.134	1982.10 135.4	0.513 318.4	3.7 1996.923	271.3 0.109 267.7 0.112	DOCOBO & TAMAZIAN
04295+2617	FW Tau 1.4876	242.00 0.180	2005.30 23.0	0.752 114.2	161.0 1997.208	226.0 0.048 239.6 0.045	DOCOBO & TAMAZIAN
4647 06041+1101	J 335 1.4917	241.34 0.811	2095.90 116.3	0.765 318.9	81.5 1991.87	277.6 1.209 277.4 1.210	OLEVIC & JOVANOVIC
06073+2641	MCA 25 17.0438	21.12 0.100	1991.58 60.5	0.871 257.3	124.7 1995.9187	189.5 0.100 193.8 0.097	MANTE I
06073+2641	MCA 25 8.2846	43.45 0.109	2001.51 62.0	0.0.000 0.3	3.5 1995.9187	5.6 0.108 9.5 0.106	MANTE II
6584 08062+0201	J 420 1.6579	217.14 2.197	1955.41 105.1	0.843 134.8	173.8 1991.51	203.1 1.482 202.6 1.517	OLEVIC I

**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>2002 2003</b>	<b>Author(s)</b>
6584 08062+0201	J 420 2.1372	168.45 1.921	1954.17 104.0	0.778 136.4	176.0 1991.51	199.8 1.55 199.3 1.58	OLEVIC II
08403+1921	CHR 130 27.2218	13.23 0.100	1985.53 82.5	0.252 281.9	162.8 1997.13	164.3 0.091 168.6 0.083	OLEVIC
11159+1318	MCA 35 44.9944	8.00 0.042	1998.35 36.7	0.677 65.0	30.6 1993.1969	265.8 0.059 279.4 0.056	MANTE
8387 12006+6911	A 1088 2.6477	135.97 0.447	2011.68 77.7	0.896 72.4	22.8 1993.20	343.0 0.118 346.5 0.119	OLEVIC & JOVANOVIC
12409+2708	COU 596 10.8108	33.30 0.108	1988.99 132.1	0.956 40.3	54.0 1997.126	207.0 0.183 206.3 0.185	DOCOBO & LING
8943 13336+2944	A 1095 1.9197	187.53 0.331	2049.28 37.8	0.471 298.2	109.1 1999.41	272.0 0.391 273.0 0.388	OLEVIC & JOVANOVIC
9047 13539+1008	BU 614 AB 1.8300	196.72 0.586	2013.84 107.7	0.568 77.8	114.1 1995.42	113.5 0.348 112.1 0.334	ZIRM
10140 16366+6948	BU 953 AB 1.7450	206.30 0.407	1898.50 111.9	0.425 258.8	142.6 1998.679	80.0 0.24 78.2 0.24	SCARDIA et al. (*)
17088+6543	STA 1 52.3325	6.88 0.096	1986.03 66.8	0.159 272.2	22.1 1994.71	19.5 0.091 42.3 0.082	OLEVIC & JOVANOVIC
17335+5734	MLR 571 4.1880	85.96 0.133	2004.31 162.7	0.417 136.6	1.0 1997.1267	248.9 0.077 237.9 0.076	ZIRM
18035+4032	COU 1785 9.8093	36.70 0.135	1997.07 80.3	0.362 171.5	54.2 1995.611	278.3 0.028 333.5 0.021	DOCOBO & LING
19180+2012	COU 321 1.0166	354.12 0.484	1995.28 101.0	0.776 188.4	142.2 1998.679	283.4 0.044 265.2 0.036	DOCOBO & LING
19535+2405	DJU 4 0.4172	862.97 1.183	2746.74 80.7	0.384 96.3	65.5 1993.0	246.0 1.215 246.0 1.226	POPOVIC & OLEVIC
13734 20210+1028	J 838 1.5010	239.84 7.451	1967.51 77.6	0.784 258.1	103.0 1995.	114.2 6.029 114.5 6.67	OLEVIC

## NEW ORBITS (continuation)

ADS $\alpha$ 2000 $\delta$	Name n	P a	T i	e $\omega$	$\Omega$ (2000) Last ob.	2002 2003	Author(s)
14748 21125+2821	HO 152 1.5817	227.60 0.388	2022.68 68.3	0.326 26.7	137.1 1998.679	122.5 0.25 123.8 0.26	SCARDIA et al. (*)
15236 21423+0555	HU 280 2.1576	166.85 0.231	1814.98 53.6	0.075 177.9	132.4 1998.663	345.5 0.18 347.8 0.17	SCARDIA et al. (*)
22180-6249	I 20 AB 0.3663	982.79 1.157	1965.84 123.0	0.526 115.2	4.2 1996.820	194.5 0.592 193.8 0.598	LING
16116 22375+2356	HU 391 AB 1.7969	200.34 0.751	2004.23 59.1	0.651 120.7	208.2 1994.90	310.5 0.142 329.1 0.152	ZIRM
16666 23186+6807	STF 3001 AB 0.2337	1540.00 3.084	1678.51 9.1	0.409 31.7	66.3 2000.513	220.2 3.268 220.4 3.273	DOCOBO & ANDRADE

(\*) SCARDIA, PRIEUR, KOECHLIN and ARISTIDI

(\*\*) DOCOBO, TAMAZIAN and WOITAS

## ANNOUNCEMENTS

For a variety of reasons, there exist a large subset of measures contained in the WDS database which have not been published. To make these data available to the astronomical community we have made them accessible from the main WDS web page:

<<http://ad.usno.navy.mil/wds/wdstext.html#unpublished>>.

It is anticipated that this section will expand substantially as the data contained in the WDS are collated.

Nils Wieth-Knudsen measures:

In late 2001, Inger Wieth-Knudsen made available to the U.S. Naval Observatory the original measurement cards Dr. Nils Wieth-Knudsen made towards the end of his distinguished career. The original cards are cataloged in the James Melville Gillis Library of the U.S. Naval Observatory. The 471 measures recorded on these cards are grouped into 211 means of 59 systems, and include 33 measures of differential magnitude. Made with both 10 and 30 inch telescopes, the observation dates range from 1961.32 to 1989.34 and the measured separations range from 0.46 to 28.97 arcseconds. These measures are accessible at:

<<http://ad.usno.navy.mil/wds/unpublished/wieth-knudsen.html>>.

Walt Sanders measures:

Over the past years Walt Sanders has (and is) continuing his observing of primarily wide M dwarf stars with a filar micrometer on the Lick 36-inch refractor. This continues the work described in *The Astronomical Journal* (volume 71, page 1008; December 1966). As of January 1, 2002 it consisted of 219 measures averaged into 99 means of 69 pairs, with observation dates from 1996.32 to 1998.70 (thusfar, observations continue) and the measured separations range from 3.2 to 122.9. In three cases no separation is measured, but the position angle is. These measures are accessible at:

<<http://ad.usno.navy.mil/wds/unpublished/sanders.html>>.

Also, in what (by some) could be more properly characterized as a labor of love, a web page has been constructed giving an overview of the history of double star research at the U.S. Naval Observatory. The history surveys the three major programs (micrometry, photography, and speckle interferometry) and also provides numerous pictures, statistics, a discussion of some binary discoveries, supplementary documents (obituaries, professional summaries, etc.), and notes to some of the more colorful characters that have been at the USNO over the years. This web page is:

<[http://ad.usno.navy.mil/wds/ds\\_history.html](http://ad.usno.navy.mil/wds/ds_history.html)>.

Brian D. Mason & William I. Hartkopf  
U.S. Naval Observatory

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“The Tycho Double Star Catalogue” by Fabricius C, Hg E, Makarov V V, Mason B D,  
Wycoff G L & Urban S E

I would like to draw your attention to the Tycho Double Star Catalogue, TDSC, which has just been accepted for publication by A&A, and the corresponding files will become available from CDS.

**Abstract:** We report the discovery of 13251 visual double stars, mostly with separations between 0.3 and 1 arcsec, from a dedicated re-reduction of the Tycho data from the star mapper of the ESA Hipparcos satellite. The new doubles are combined with 18160 WDS systems identified in the Tycho-2 Catalogue, and 1220 new Tycho-2 doubles, to form the Tycho Double Star Catalogue, TDSC, a catalogue of absolute astrometry and BT, VT photometry for 66219 components of 32631 double and multiple star systems. We also include results for 32263 single components for systems unresolved in TDSC, and a supplement gives Hipparcos and Tycho-1 data for 4777 additional components. The TDS thus contains a total of 103259 entries. Cross identifications are given to WDS, HD, Hipparcos and Tycho-2.

Claus Fabricius

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The deadline for contributions to Information Circular No. 147 is:

June 15th 2002

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