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## Orbital elements of double stars: ADS 8508

Josefina Ling, Marco Scardia, Jean-Louis Prieur, Luigi Pansecchi, Robert W. Argyle, Alessio Zanutta, Eric Aristidi, Abe Liu, Philippe Bendjoya, Cécile Combier-Dimur, et al.

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**INTERNATIONAL ASTRONOMICAL UNION**  
**COMMISSION G1 (BINARY AND MULTIPLE STAR SYSTEMS)**  
**DOUBLE STARS INFORMATION CIRCULAR No. 191 (FEBRUARY 2017)**

**NEW ORBITS**

| <b>ADS</b><br>$\alpha$ 2000 $\delta$ | <b>Name</b><br><b>n</b> | <b>P</b><br><b>a</b>                      | <b>T</b><br><b>i</b> | <b>e</b><br>$\omega$ | <b><math>\Omega</math>(2000)</b><br><b>Last ob.</b> | <b>2017</b><br><b>2018</b>             | <b>Author(s)</b>      |
|--------------------------------------|-------------------------|---|----------------------|----------------------|---|--|-----------------------|
| 371<br>00283+6344                    | HU 1007AB<br>0°8552     | 420 <sup>y</sup> 93<br>0 <sup>h</sup> 674 | 2016.54<br>59°1      | 0.336<br>32°6        | 80°3<br>2009.7550                                   | 99°0 0 <sup>h</sup> 394<br>100.3 0.389 | MILES &<br>MASON      |
| 597<br>00429+2047                    | A 2205<br>0.3207        | 165.05<br>0.281                           | 1961.42<br>138.9     | 0.776<br>309.2       | 126.8<br>2010.8837                                  | 3.0 0.375<br>2.4 0.378                 | MILES &<br>MASON      |
| 993<br>01131+2942                    | A 1260AB<br>2.6245      | 137.17<br>0.288                           | 2029.43<br>78.1      | 0.489<br>274.3       | 242.2<br>2009.7261                                  | 64.3 0.206<br>65.2 0.196               | MILES &<br>MASON      |
| -<br>01418+4237                      | MCY 2<br>19.8675        | 18.12<br>0.631                            | 1993.63<br>98.8      | 0.434<br>144.3       | 205.0<br>2002.7773                                  | 230.3 0.268<br>220.6 0.419             | MILES &<br>MASON      |
| 1371<br>01450+5707                   | BU 453AB<br>0.5424      | 663.7<br>1.204                            | 1953.71<br>32.5      | 0.689<br>336.5       | 14.5<br>2017.048                                    | 110.7 0.799<br>111.4 0.807             | SCARDIA<br>et al. (*) |
| 1630<br>02039+4220                   | STT 38BC<br>5.7480      | 62.63<br>0.317                            | 1951.98<br>104.8     | 0.874<br>163.4       | 103.2<br>2010.086                                   | 138.4 0.065<br>128.1 0.106             | DOCOBO<br>& LING      |
| -<br>02379+2003                      | A 2219<br>1.0417        | 345.58<br>0.331                           | 1948.58<br>132.5     | 0.906<br>208.1       | 155.0<br>2015.7436                                  | 146.4 0.462<br>146.2 0.466             | MILES &<br>MASON      |
| 2446<br>03184-2231                   | SEE 23<br>3.0466        | 118.16<br>0.340                           | 1934.24<br>66.6      | 0.030<br>333.5       | 271.6<br>2016.9591                                  | 111.6 0.270<br>113.5 0.259             | MILES &<br>MASON      |
| 3093<br>04153-0739                   | STF 518BC<br>1.6051     | 224.28<br>6.977                           | 1847.21<br>107.0     | 0.444<br>315.0       | 151.4<br>2016.1310                                  | 331.1 8.098<br>330.8 8.024             | MILES &<br>MASON      |
| -<br>04295+2617                      | SMN 11AB<br>3.1496      | 114.3<br>0.146                            | 1996.55<br>65.8      | 0.303<br>46.4        | 160.1<br>2014.0680                                  | 324.6 0.121<br>326.3 0.126             | DOCOBO<br>et al (**)  |
| -<br>05373+6642                      | MLR 314<br>6.8658       | 52.43<br>0.259                            | 1985.23<br>60.5      | 0.574<br>285.5       | 155.8<br>2005.109                                   | 293.5 0.254<br>296.3 0.258             | DOCOBO<br>& CAMPO     |

**NEW ORBITS (continuation)**

| <b>ADS</b><br>$\alpha$ <b>2000</b> $\delta$ | <b>Name</b><br><b>n</b> | <b>P</b><br><b>a</b> | <b>T</b><br><b>i</b> | <b>e</b><br>$\omega$ | $\Omega$ ( <b>2000</b> )<br><b>Last ob.</b> | <b>2017</b><br><b>2018</b> | <b>Author(s)</b>    |
|---|-------------------------|----------------------|----------------------|----------------------|---|----------------------------|---------------------|
| 5193<br>06336-1207                          | HU 43<br>2.3847         | 150.96<br>0.610      | 1978.83<br>65.0      | 0.856<br>354.9       | 138.4<br>2010.0656                          | 309.5 0.892<br>309.8 0.904 | MILES &<br>MASON    |
| 5332<br>06418+3041                          | A 218<br>2.2098         | 162.91<br>0.239      | 1888.93<br>120.7     | 0.076<br>280.1       | 218.8<br>2008.1040                          | 31.2 0.230<br>30.0 0.228   | MILES &<br>MASON    |
| 6548<br>08050+5825                          | A 1073<br>3.1507        | 114.26<br>0.250      | 1971.68<br>134.5     | 0.554<br>218.0       | 149.4<br>2009.0627                          | 131.4 0.359<br>130.5 0.359 | MILES &<br>MASON    |
| 6828<br>08285-0231                          | A 551AB<br>6.6177       | 54.40<br>0.289       | 2002.13<br>84.1      | 0.442<br>214.4       | 62.6<br>2014.3028                           | 62.1 0.352<br>62.5 0.363   | DOCOBO<br>& LING    |
| -<br>09156-1036                             | MTG 2<br>71.7706        | 5.016<br>0.181       | 2013.894<br>120.9    | 0.404<br>264.6       | 116.2<br>2016.9647                          | 358.6 0.136<br>311.4 0.164 | MASON &<br>HARTKOPF |
| 7580<br>09551-2632                          | I 843AB<br>1.9112       | 188.36<br>1.013      | 1875.30<br>130.7     | 0.591<br>232.5       | 204.7<br>2011.0371                          | 121.0 0.852<br>119.6 0.841 | MILES &<br>MASON    |
| 8231<br>11363+2747                          | STF 1555AB<br>0.2081    | 1730.<br>3.042       | 2023.2<br>86.1       | 0.778<br>22.4        | 149.8<br>2015.192                           | 150.2 0.683<br>150.4 0.676 | DOCOBO<br>& LING    |
| 8508<br>12194+1744                          | A 2059<br>1.4706        | 244.8<br>0.647       | 2040.96<br>60.1      | 0.677<br>82.2        | 61.1<br>2016.257                            | 41.4 0.442<br>42.6 0.437   | LING<br>et al (***) |
| 8573<br>12301-1324                          | BU 28AB<br>2.4793       | 145.20<br>1.376      | 1943.95<br>26.7      | 0.703<br>75.9        | 92.8<br>2015.0292                           | 347.4 2.108<br>348.1 2.107 | DOCOBO<br>& CAMPO   |
| 8573<br>12301-1324                          | BU 28AB<br>2.3851       | 150.94<br>1.395      | 1946.09<br>29.9      | 0.702<br>60.9        | 112.8<br>2016.3890                          | 347.3 2.144<br>347.9 2.143 | MILES &<br>MASON    |
| 9220<br>14179+6914                          | A 1102<br>1.4772        | 243.71<br>0.367      | 1926.31<br>135.4     | 0.355<br>23.6        | 259.5<br>2008.4611                          | 79.9 0.475<br>79.3 0.476   | MILES &<br>MASON    |
| -<br>15258+8430                             | MLR 347<br>17.8306      | 20.19<br>0.131       | 1979.62<br>158.3     | 0.505<br>23.5        | 44.5<br>2008.4611                           | 134.2 0.113<br>110.8 0.093 | MILES &<br>MASON    |
| 9689<br>15332-2429                          | SEE 238Ba,Bb<br>5.8891  | 61.13<br>0.255       | 1999.03<br>39.8      | 0.711<br>104.8       | 231.5<br>2015.3355                          | 135.5 0.294<br>137.9 0.300 | MILES &<br>MASON    |

Note for WDS 09156-1036 : Mass(a) =  $0.121 \pm 0.012 M_{\odot}$ , Mass(b) =  $0.091 \pm 0.009 M_{\odot}$

**NEW ORBITS (continuation)**

| <b>ADS</b><br>$\alpha$ 2000 $\delta$ | <b>Name</b><br><b>n</b> | <b>P</b><br><b>a</b> | <b>T</b><br><b>i</b> | <b>e</b><br>$\omega$ | <b><math>\Omega</math>(2000)</b><br><b>Last ob.</b> | <b>2017</b><br><b>2018</b> | <b>Author(s)</b> |
|--------------------------------------|-------------------------|----------------------|----------------------|----------------------|---|----------------------------|------------------|
| 10595<br>17305-1446                  | HU 177<br>1.6356        | 220.41<br>0.293      | 1987.21<br>156.3     | 0.541<br>252.6       | 179.5<br>2015.5409                                  | 174.3 0.263<br>172.8 0.268 | MILES &<br>MASON |
| -<br>17375-3747                      | B 915AB<br>2.1119       | 170.46<br>0.269      | 2141.79<br>57.7      | 0.142<br>70.1        | 140.1<br>2011.2893                                  | 321.3 0.279<br>322.3 0.280 | MILES &<br>MASON |
| 10971<br>18003+2154                  | A 1374AB<br>2.5801      | 139.53<br>0.504      | 1995.81<br>136.7     | 0.806<br>76.0        | 249.0<br>2015.5408                                  | 32.7 0.502<br>31.6 0.513   | MILES &<br>MASON |
| -<br>18108-3529                      | B 1352<br>2.9070        | 123.84<br>0.257      | 2039.29<br>51.4      | 0.450<br>81.9        | 240.0<br>2015.5410                                  | 216.1 0.230<br>218.1 0.229 | MILES &<br>MASON |
| 11296<br>18236-2610                  | HO 566<br>3.0033        | 119.87<br>0.376      | 1968.65<br>105.2     | 0.784<br>223.7       | 154.1<br>2010.5909                                  | 143.0 0.534<br>142.8 0.533 | MILES &<br>MASON |
| -<br>19167-4553                      | RST 4036<br>46.9361     | 7.67<br>0.230        | 1995.05<br>126.4     | 0.273<br>238.8       | 197.6<br>2015.5410                                  | 30.4 0.195<br>340.2 0.129  | MILES &<br>MASON |
| 14759<br>21135+0713                  | BU 270AB<br>3.3714      | 106.78<br>0.407      | 1931.26<br>102.7     | 0.646<br>331.8       | 166.7<br>2008.7723                                  | 344.5 0.475<br>344.1 0.459 | MILES &<br>MASON |
| 16904<br>23393+4543                  | CHR 149Ba,Bb<br>14.1732 | 25.40<br>0.049       | 1998.61<br>135.4     | 0.301<br>39.5        | 267.5<br>2005.8602                                  | 358.2 0.039<br>342.6 0.038 | MILES &<br>MASON |

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

(\*\*) DOCOBO, TAMAZIAN & CAMPO

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

### NEW DOUBLE STARS

Discovered by: Marco Scardia using the speckle camera PISCO attached to the Epsilon telescope of the Calern Observatory

| STAR    | Coord. FK5 J2000       | Mag.      | Epoch    | $\theta$<br>( $^{\circ}$ ) | $\rho$<br>( $''$ ) |
|---------|------------------------|-----------|----------|----------------------------|--------------------|
| SCA 176 | 03 57 53.2 +51 41 56.6 | 11.4 12.1 | 2016.948 | 76.8                       | 8.185              |
| SCA 177 | 06 25 42.7 +16 25 21.8 | 12.6 13.2 | 2017.068 | 33.2                       | 3.342              |
| SCA 178 | 06 25 48.7 +16 25 42.1 | 12.6 12.7 | 2017.082 | 20.7                       | 3.066              |

### NEW DOUBLE STARS

Discovered by A. Debackère using LCOGT global telescope network.

- FTN : Faulkes Telescope North T2m, Haleakala, Hawaii, LCOGT
- FTS : Faulkes Telescope South T2m, Siding Spring, Australia, LCOGT
- V37 : T1m, McDonald Observatory, Fort Davis, Texas, USA, LCOGT

| STAR          | Precise Coord      | UCAC4<br><u>USNO-B1.0</u><br><i>GAIA</i> | Mag.      | Epoch    | $\theta$<br>( $^{\circ}$ ) | $\rho$<br>( $''$ ) | Obs  |
|---------------|--------------------|--|-----------|----------|----------------------------|--------------------|------|
| DBR 199       | 230510.34+511354.3 | 707-110300                               | 16.8 17.2 | 2016.787 | 357.3                      | 2.49               | 1V37 |
| DBR 200       | 230348.74+511403.2 | 707-110078                               | 16.5 18.0 | 2016.787 | 172.1                      | 2.55               | 1V37 |
| DBR 201       | 230519.86+510843.3 | 706-111288                               | 16.7 17.0 | 2016.787 | 136.7                      | 1.73               | 1V37 |
| DBR 202       | 230455.23+510840.1 | <u>1411-0477395</u>                      | 17.7 17.8 | 2016.787 | 357.0                      | 1.77               | 1V37 |
| DBR 203       | 230348.49+511104.1 | 706-111021                               | 15.8 16.9 | 2016.787 | 312.2                      | 4.06               | 1V37 |
| DBR 204 A (1) | 232154.53+483824.9 | 694-123869                               | 11.4      | 2016.809 | 241.4                      | 7.86               | 2FTN |
| C             | 232153.83+483821.2 |  | 15.0      |          |                            |                    |      |
| DBR 205       | 235341.94+141320.4 | 522-145312                               | 14.3 18.7 | 2016.829 | 108.2                      | 5.31               | 1FTN |
| DBR 206       | 005054.75-722433.0 | 088-001526                               | 17.0 18.9 | 2016.842 | 175.2                      | 2.54               | 1FTS |
| DBR 207       | 005057.71-722909.3 | <u>0175-0024903</u>                      | 18.2 18.4 | 2016.842 | 297.1                      | 2.26               | 1FTS |
| DBR 208       | 005100.40-722338.5 | 089-001758                               | 16.2 19.1 | 2016.842 | 87.4                       | 3.18               | 1FTS |
| DBR 209 A     | 005100.62-722919.5 | <i>199621763-000014</i>                  | 18.3      | 2016.842 | 145.1                      | 3.18               | 1FTS |
| B             | 005101.03-722922.2 | <i>199621763-000019</i>                  | 19.4      |          |                            |                    |      |

(1) The first component of TDT 3998 AB (neglected) has a companion not indexed in the WDS which I called DBR 204 AC.

## NEW DOUBLE STARS

Discovered by: A. Debackère using LCOGT global telescope network.  
(continuation)

| STAR      | Precise Coord        | UCAC4<br><u>USNO-B1.0</u><br><i>GAIA</i> | Mag.      | Epoch    | $\theta$<br>( $^{\circ}$ ) | $\rho$<br>( $''$ ) | Obs  |
|-----------|----------------------|--|-----------|----------|----------------------------|--------------------|------|
| DBR 209 A | 005100.62-722919.5   | <i>199621763-000014</i>                  | 18.3      | 2016.842 | 237.1                      | 1.73               | 1FTS |
|           | C 005100.32-722920.3 | <i>non identified</i>                    | 19.8      |          |                            |                    |      |
| DBR 210   | 005102.06-723047.6   | 088-001542                               | 15.9 16.8 | 2016.842 | 78.7                       | 3.86               | 1FTS |
| DBR 211   | 005103.78-722717.3   | 088-001545                               | 17.0 18.4 | 2016.842 | 10.3                       | 1.09               | 1FTS |
| DBR 212 A | 005107.72-722640.0   | <u>0175-0025229</u>                      | 16.9      | 2016.842 | 38.3                       | 4.347              | 1FTS |
|           | B 005108.33-722636.6 | 088-001556                               | 17.3      |          |                            |                    |      |
| DBR 213   | 005107.97-722620.7   | 088-001553                               | 16.8 17.5 | 2016.842 | 279.3                      | 2.22               | 1FTS |
| DBR 214 A | 005107.98-722630.7   | <i>199619913-000034</i>                  | 16.9      | 2016.842 | 280.3                      | 2.27               | 1FTS |
|           | B 005107.51-722630.3 | <i>199619913-000026</i>                  | 17.4      |          |                            |                    |      |
| DBR 215   | 005108.53-722620.6   | NOMAD<br>0175-0025277                    | 18.5 18.9 | 2016.842 | 86.9                       | 2.36               | 1FTS |
| DBR 216   | 005109.59-722918.5   | 088-001558                               | 16.2 18.0 | 2016.842 | 331.5                      | 3.48               | 1FTS |
| DBR 217   | 005111.98-722141.1   | <u>0176-0027361</u>                      | 16.7 17.7 | 2016.842 | 353.2                      | 2.75               | 1FTS |
| DBR 218   | 005112.72-723050.8   | <u>0174-0028166</u>                      | 17.2 18.0 | 2016.842 | 285.3                      | 3.50               | 1FTS |
| DBR 219   | 005114.43-722656.7   | 088-001568                               | 15.7 17.6 | 2016.842 | 14.6                       | 2.06               | 1FTS |
| DBR 220   | 005117.41-722532.7   | 088-001572                               | 16.7 18.1 | 2016.842 | 37.0                       | 3.94               | 1FTS |
| DBR 221   | 005122.19-722540.0   | 088-001586                               | 17.2 17.5 | 2016.842 | 31.5                       | 1.84               | 1FTS |
| DBR 222   | 005128.73-722310.0   | 089-001802                               | 16.5 17.1 | 2016.842 | 354.3                      | 1.03               | 1FTS |
| DBR 223   | 005131.70-722145.0   | 089-001810                               | 16.9 19.1 | 2016.842 | 35.3                       | 1.49               | 1FTS |
| DBR 224   | 005131.70-722532.1   | 088-001610                               | 14.1 15.7 | 2016.842 | 128.4                      | 3.09               | 1FTS |
| DBR 225   | 005141.09-722204.6   | 089-001827                               | 17.8 17.9 | 2016.842 | 65.9                       | 1.81               | 1FTS |
| DBR 226   | 005144.16-722146.4   | <u>0176-0028452</u>                      | 18.3 18.7 | 2016.842 | 109.7                      | 1.70               | 1FTS |
| DBR 227 A | 005144.32-722932.4   | 088-001634                               | 17.1      | 2016.842 | 279.0                      | 6.00               | 1FTS |
|           | B 005142.99-722931.3 | 088-001633                               | 17.2      |          |                            |                    |      |
| DBR 227 A | 005144.32-722932.4   | 088-001634                               | 17.1      | 2016.842 | 336.2                      | 16.1               | 1FTS |
|           | C 005144.19-722931.0 | <i>199620355-000003</i>                  | 18.0      |          |                            |                    |      |
| DBR 228   | 005144.69-722325.8   | <u>0176-0028475</u>                      | 17.4 18.5 | 2016.842 | 5.8                        | 2.57               | 1FTS |
| DBR 229   | 005153.24-722715.7   | 088-001656                               | 16.2 17.7 | 2016.842 | 108.1                      | 3.34               | 1FTS |
| DBR 230   | 005156.81-722701.6   | <u>0175-0027014</u>                      | 17.2 19.0 | 2016.842 | 306.8                      | 1.15               | 1FTS |
| DBR 231   | 005157.81-722609.4   | <u>0175-0027044</u>                      | 16.5 16.9 | 2016.842 | 219.9                      | 3.34               | 1FTS |
| DBR 232   | 005203.74-722730.9   | 088-001683                               | 16.6 17.5 | 2016.842 | 132.2                      | 4.23               | 1FTS |
| DBR 233   | 005207.41-722125.6   | 089-001870                               | 15.2 16.9 | 2016.842 | 300.8                      | 1.92               | 1FTS |
| DBR 234   | 005210.68-722311.1   | 089-001877                               | 16.0 17.2 | 2016.842 | 209.9                      | 1.24               | 1FTS |
| DBR 235   | 005213.62-722338.8   | 089-001881                               | 15.9 17.2 | 2016.842 | 179.6                      | 1.46               | 1FTS |

## NEW DOUBLE STARS

Discovered by: A. Debackère using LCOGT global telescope network.  
(continuation)

| STAR    | Precise Coord      | UCAC4<br><u>USNO-B1.0</u><br><i>GAIA</i> | Mag.      | Epoch    | $\theta$<br>( $^{\circ}$ ) | $\rho$<br>( $''$ ) | Obs  |
|---------|--------------------|--|-----------|----------|----------------------------|--------------------|------|
| DBR 236 | 005214.53-722331.0 | 089-001883                               | 15.5 15.9 | 2016.842 | 153.1                      | 1.90               | 1FTS |
| DBR 237 | 005214.56-722332.2 | 089-001883                               | 15.7 15.8 | 2016.842 | 351.5                      | 1.75               | 1FTS |
| DBR 238 | 005220.14-723033.1 | 088-001730                               | 15.6 16.5 | 2016.842 | 358.4                      | 1.34               | 1FTS |
| DBR 239 | 005226.58-722328.9 | 089-001896                               | 15.6 16.5 | 2016.842 | 137.8                      | 1.28               | 1FTS |
| DBR 240 | 005231.97-722525.9 | 088-001766                               | 16.3 16.9 | 2016.842 | 49.5                       | 2.37               | 1FTS |
| DBR 241 | 005233.27-722350.4 | 089-001909                               | 13.5 17.3 | 2016.842 | 309.2                      | 2.49               | 1FTS |
| DBR 242 | 062338.67+263712.3 | 584-028737                               | 12.6 18.0 | 2016.927 | 50.8                       | 4.24               | 2FTN |
| DBR 243 | 062123.39+264513.0 | 584-028148                               | 15.0 17.6 | 2016.929 | 341.4                      | 1.56               | 3FTN |

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The deadline for contributions to Information Circular No. 192 is:

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