RECALCULATED ORBITS OF 8 DOUBLE STARS

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SUMMARY: The authors present new orbital elements for the following pairs: ADS 1227, ADS 3317, ADS 8128, ADS 8239, ADS 8242, ADS 8539, ADS 8949 and McA 61. Individual masses for these pairs are also calculated. For the pairs ADS 8128, ADS 8239, ADS 8539 and ADS 8949 calculated parallaxes are in accordance with the corresponding parallaxes of the Hipparcos Program.

1. INTRODUCTION

The latest observations of the pairs ADS 1227, ADS 3317, ADS 8128, ADS 8239, ADS 8242, ADS 8539, ADS 8949 and McA 61 show that the residuals (O - C) calculated from the previous elements are significant. For this reason we performed calculation of new orbital elements for the above pairs.

2. RESULTS

In Table 1, are given:

a) Basic information about the pairs,
b) Classical and vectorial orbital elements and
c) Absolute magnitudes.

Masses and parallaxes are given for the pairs located on the main sequence of H-R diagram. The calculation is performed using the equation from Angelov (1993) and Angelov (1996). The ephemeris are given in Table 2 and graphical presentation of the calculated orbits and used observations is given in Figs. 1 - 8. The above results are also published in the IAU Circ. No. 141.

3. CONCLUSION

The obtained dynamical parallaxes (π_{dyn}) are in good accordance with Hipparcos results.

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| 2001.0 | 123.5   | 0.775   | 324.5   | 1.720   | 127.9   | 1.949   | 56.8    | 0.058   |
| 2002.0 | 129.2   | 0.654   | 324.4   | 1.728   | 128.7   | 1.933   | 62.5    | 0.057   |
| 2003.0 | 138.0   | 0.502   | 324.3   | 1.736   | 129.5   | 1.916   | 68.8    | 0.053   |
| 2004.0 | 155.7   | 0.326   | 324.2   | 1.744   | 130.3   | 1.900   | 76.1    | 0.049   |
| 2005.0 | 205.6   | 0.199   | 324.1   | 1.751   | 131.1   | 1.884   | 84.9    | 0.044   |
| 2006.0 | 263.3   | 0.296   | 324.0   | 1.759   | 132.0   | 1.868   | 95.9    | 0.039   |
| 2007.0 | 283.9   | 0.483   | 323.9   | 1.767   | 132.9   | 1.852   | 109.2   | 0.036   |
| 2008.0 | 292.9   | 0.663   | 323.8   | 1.774   | 133.7   | 1.836   | 124.4   | 0.035   |
| 2009.0 | 298.2   | 0.824   | 323.7   | 1.782   | 134.6   | 1.821   | 140.0   | 0.035   |
| 2010.0 | 301.9   | 0.966   | 323.6   | 1.789   | 135.5   | 1.805   | 154.4   | 0.038   |
REFERENCES

*** : 2000, Circulaire IAU, No. 141.
The Hipparcos and Tycho Catalogues (ESA 1997).

нови путањски елементи 8 двојних звезда

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Астрономска опсерваторија, Волгина 7, 11160 Београд-74, Југославија

УДК 524.383
Претходно списање

Автори овог рада дају нове путањске елементе за следеће двојне звезде: ADS 1227, ADS 3317, ADS 8128, ADS 8239, ADS 8242, ADS 8539, ADS 8949 и McA 61. За парове ADS 8128, ADS 8239, ADS 8539 и ADS 8949 израчунате су и паралаксе које се добро слажу са резултатима Hipparcos програма, као и појединачне масе система.