

PERIOD STUDY OF TW DRACONIS

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Abstract

TW Draconis is one of well known Algol-type eclipsing binaries. There is a significant evidence for miscellaneous interacting physical processes in the system, manifesting themselves i.a. by period and light curve changes. We studied those changes on the base of 561 minima timings spanning the last 150 years. We performed extended O-C diagram analysis. The timing residuals were analyzed with the help of weighting nonlinear robust regression. The weights of individual types of minima were determined iteratively. The ephemeris are expressed in the orthogonal or quasi-orthogonal forms enabling us e.g. to determine directly uncertainties of photometric phases for any given moments. The timing residuals display two different stages which are described in detail. The possible reasons for shown O-C are discussed.

The whole set of data, detail description of the data processing and result discussion is described in forthcoming paper in Astronomy and Astrophysics.