

mation) by the satellite-disc surrounding gainer from phase 0.97P in 1991 to the phase 0.93P in 1992 (Skulskyj 1992, 1993c): we derived the valuable conclusion that major axis of this disc is turning and precessing.

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# A SEARCH FOR POSSIBLE UNRESOLVED COMPONENTS IN EIGHTEEN ECLIPSING BINARIES

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**ABSTRACT.** A total of 8507 minima times (6890 visual and 1617 photographic or photoelectric ones) of 18 eclipsing binary stars have been separated and collected from the remarkable collection of late Dieter Lichtenknecker and from the recent literature. Using the Kopal method for the analysis of the obtained (O-C) diagrams of these systems (belonging to different types of eclipsing variables) one can classify them into three categories:

1. "good cases": systems with light-time effect resulting third component with reasonable orbital and astrophysical parameters. They are AB And, TV Cas, XX Cep, AK Her.

2. "probable cases": good candidates of multiplicity but the observational data available up to now are insufficient for obtaining satisfactory description. Light-time ana-

lysis of these systems has resulted not so good solutions like for the previous group, but they can be held as noticeable targets for the future studies. These systems are U CrB, W Del, U Peg, AT Peg, ST Per.

3. "problematical cases": These systems either do not have enough data for making unambiguous identification of the sinusoidal (O-C) (due to light-time effect) and thus, we could not find a corresponding good third-body orbit, or the mathematical analysis led to results which are inconsistent with other observational or astrophysical facts. They are RT And, XZ And, OO Aql, Y Cam, RS CVn, TW Cas, CQ Cep, MR Cyg, SW Lac.

**Key words:** Stars: Binaries: eclipsing - period changes - light-time effect