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A SELECTION OF OBSERVATIONALLY ATTRACTIVE CLOSE BINARIES

The present authors have recently edited A Finding List for Observers of Close Binaries and this volume is to be published shortly. A brief presentation concerning the Finding List at the IAU General Assembly in Montreal emphasized that curious characteristics appear to be associated with some close binaries which have been relatively neglected up to now. In response to a request, we offer a selection of these objects in this note, commenting upon their intrinsic interest or the matters of confusion concerning them.

AM Aqr: This short-period object may be a cool contact binary. If it is such, the 1.4-mag depth of primary eclipse is uncommon. However, a secondary minimum has not yet been reported, and it is possible the object has dis-similar temperature components. Two distinct changes of the form of the light curve have been reported.

DV Aqr: A claim has been made that the one star of this binary shows δ Sct-type pulsation in the β-index. Shell structure and activity have also been announced. The Keplerian period is $\simeq$1.6 days.

V1182 Aql: A Keplerian period of only $\simeq$ 1.6 days binds this apparently very massive O-type system.

UX Boo: Spectral classifications of G8 III and G2 V are given for this 10-mag system, but the Keplerian period is not yet known.

BW Boo: It is not clear whether the secondary eclipse is displaced from the half-period phase truly indicating an eccentric orbit or whether one component pulsates. This binary is quite bright, but unfortunately the Keplerian period is very close to 3.33 days. Cooperation between two or three stations substantially separated in longitude should resolve the confusion.

CE CMa: Apparently a measurably eccentric, 27-day orbit defines the binary motion. Color indices or a spectral classification are desirable to indicate whether the object is a relatively familiar main sequence pair or, more interestingly, somewhat evolved.

FL Car: It is surely unusual to see a C-type star in a ≃0.9-day eclipsing binary. Since Carina is such a rich constellation, it is worthwhile confirming that the spectral classification does not refer to some neighboring star.

V338 Car: No light curve has yet been published for this 9-mag system containing a B9 star. The Keplerian period has been reported to be ≃74 days; if this is correct and if the components are main sequence stars, one can expect a light curve essentially free of complications.

AB Cas: The δ Sct-type pulsation of the A3 member is reported to be rigorously synchronized with the ≃1.4-day Keplerian period, yet two changes of the latter have been described. It would be most interesting to determine if the pulsation period remains constant.

V523 Cas: This is one of the small, but growing, number of K-type contact binaries and merits attentive monitoring.

V Cir: The very deep primary eclipse suggests this binary to be in the slow interval of mass transfer but, in fact, only an apparently large multiple of the Keplerian period is known.

RS Crt: Supposedly at least one G0 star moving in an ≃0.8-day eclipsing orbit, but one observer reported finding no variability over an interval of 13 months.

WX Cru: Although fainter than 13-mag photographically, this object has an IR mag of about 8. It surely contains a C-type star (making a much stronger case than does FL Car) and the companion may be of very different temperature. The Keplerian period is ≃60 days, and the eclipses might be complete. All types of observing programs are of great importance.

BR Cyg: It is remarkable that the bizarre, color-dependent eclipse morphology has not attracted much subsequent photometric effort.

V541 Cyg: Since the eclipses are complete, this ≈15-day eccentric system should yield a very determinate photometric analysis.

U Gru: The very deep primary eclipse and the shallow secondary, each eclipse possibly being complete, suggest a system in the interval of slow mass exchange.

RV Gru: The Keplerian period of just over 6 hours strongly suggests a K-type contact pair.

VY Lac: A displaced secondary, and inferentially an eccentric orbit, have been reported for this ≈1-day system. This unlikely possibility should be checked.

AG Lac: Both eclipses have been detected, the secondary measurably displaced from the half-period phase, in this ≈0.8-day Keplerian orbit. Although the binary is quite faint, this system should command attention because the orbital dynamics would be most interesting if the behavior already reported is confirmed.

V345 Lac: Apsidal rotation may be detectable for this relatively bright, B-type binary.

HP Lyr: Formerly thought an SR variable, the object is apparently a pair of A1 stars moving with a ≈140-day Keplerian period. The eclipses are likely to be partial but could be complete. It is interesting to note that the orbit is apparently circular.

BB Mon: The Keplerian period is given as ≈0.7-days, but may be longer than that value. A displaced secondary and a conspicuous reflection effect have been reported for a visual light curve. Since the system is not faint, these curious light curve details can easily be checked.

BX Peg: One might expect the spectral type to be somewhat later than G4.5 for this contact pair.

X PsA: The ranges of both eclipses are given as 1.3-mag making the light curve comparable to that of OO Aql although the Keplerian period of X PsA is distinctly shorter than that for OO Aql. It is regrettable that X PsA is so faint.

V777 Sgr: Except that the hot member is of A-, rather than B-, type, this object strongly resembles ζ Aur and is not very faint.

V381 Sco: This is a rather faint supergiant system and may bear some resemblance to ε Aur. For that reason alone, it is worth studying.

SZ Scl: Most likely this is a G-type contact binary. Interest concerning it centers around the remarkable difference between UBV magnitudes and the CoD estimate. Apparently it does not appear in the CPD, which omission is consistent with the photoelectric results.

CX Ser: This object is said to be similar to old novae and shows peculiarities in the light curve. The Keplerian period is $\simeq$ 1-day.

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