COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1709

Konkoly Observatory
Budapest
1979 November 27

PHOTOELECTRICALLY-NEGLECTED ECLIPSING BINARIES

When compared to photoelectric light curves, light curves derived from photographic (e.g., iris photometer) or visual (e.g., polarizing photometer) measurements may be described relatively as "imprecise". This arises typically because the random errors of the photographic or visual measurements are larger than are the random errors for photoelectric measurements. Similarly, when compared to photoelectric data, light curves derived from visual estimates of a photographic plate or directly at the telescope may be described relatively as "inaccurate". Not only are the accidental errors of the estimates larger than are those of photoelectric measures, but typically systematic errors working on assorted scales remain in the estimates.

The present authors recently served as editors of a Finding List of Close Binaries and found, as expected, a gratifying increase in the number of close binaries for which the photometric analyses rest upon photoelectric measures. They were surprised, however, to note the significant number of binaries for which the most recent photometric analyses are those of photographic or visual measurements or estimates as described above. When this was reported at a session of Commission 42 during the IAU General Assembly at Montreal, a request was made to publicize the names of these binaries in advance of the printing of the new Finding List. Hence, the attached list of such systems arrayed alphabetically by constellation. Within this list no distinction is made by observing technique, but most of the analyses are based upon photographic estimates. The compilation of this list is not meant to disparage photographic and visual procedures, for these will continue to be used indefinitely for discovery and first-epoch light curves. Rather, it is intended to suggest that photometrists need not confine attention to familiar systems; with moderate-size telescopes they can profitably study rather bright close binaries which have received essentially no photoelectric attention for decades.

And: TT, WZ, AA, AP

Aqr: RY, BQ

Aql: FK, QY, V343

Ara: UW

Ari: RS

Aur: RZ, ZZ, AK

Cam: SS, SZ

Cnc: RU

CMa: RX

Cap: RW

Car: X, SS, ST, CV, DO, EM, EZ, FP, GN, GW, HH, HI, KU

Cas: TX, XX, ZZ

Cen: RZ, SS, ST, SU, SW, SY, BF, KT, LT, V346, V350, V377, V380, V384, V495, V644, V646

Cep: RS, WZ, XY, XZ

Cet: SS

Cir: S

CrA: UU

CrB: RW

Cru: W, AE

Cyg: SY, UW, VV, VW, WZ, DL, LO, V448, V478, V809

Del: RR, TY

Dra: Z, RR, RX, SX, WW

Eri: RZ, CW

Gem: TX, AF

Gru: W, X

Her: TU, DH, MM

Hya: RX, SX, TT, VY

Lac: SS, UW, CN

Leo: RW

Lep: V

Lib: EI

Lyr: UZ

Mon: FW

Nor: TV

Oph: RZ, SW

Ori: Z, DN

Peg: TY

Per: RV, RW, RY, AB

Psc: UU

Pup: RR

Sgr: RS, WY, ZZ, BQ, V524, V525

Sct: U, W, RS, RY, BN, ER

Tau: SV

Tri: V

UMa: RW

Vel: RR, TT, AL

Vir: UW, BD

Vol: W

Vul: RR, XZ, AT, AZ, BO, CD

The attached list contains a great variety of binary configurations: several contact systems, a few ZAMS binaries, numerous evolved pairs, and a very few systems with moderate supergiant properties. The distribution of Keplerian periods peaks between 1 and 3 days and the histogram for the spectral types of the hot members favors B8 to A5 classifications.

It is necessary to observe two cautions in using this list. First, Nos. 30, 31, and 32 of the IAU Comm. 42 Bibliography and Program Notes on Close Binaries show that photoelectric analyses have been presented after April, 1978 (the cutoff date for the Finding List) for a few binaries. Thus, these systems do not appear in the present list. Secondly, there may be unanalyzed photoelectric light curves of some of these systems presently known only to their observers.

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