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TIMES OF MINIMA OF SIX ALGOL-LIKE ECLIPSING BINARIES

As a part of a two- to three-year program of monitoring primary eclipses of Algol-like binaries for evidence of mass-transfer events, we give 20 times of minima for six systems observed from 1978 to 1980. When observations are complete, times will follow for about eight more systems. Observations were made with the 1.0 M Prairie Observatory, the Nos. 3 and 4 0.4 M and the No. 2 0.9 M Kitt Peak National Observatory reflectors. Single channel pulse-counting photometers with RCA 31034A-02 photomultiplier tubes were used for all observations, and data were obtained in Strömngren-Crawford  $u v b y$  and Kron  $I_k$  standard photometric systems. Times of minima for each color were determined by the method of Kwee and Van Woerden (1956), as programmed by R.C. Crawford.

Times of minima and mean errors are listed in Table I. Except in three cases noted in footnotes, times in all colors agreed to within observational errors. The first eclipse listed for RZ Cas was slightly abnormal in shape, showing small-amplitude "waves" during ingress and egress, and a flat tilted 19-minute interval around minimum light in all colors. Other observers have seen similar features (Archer 1958; Szafraniec 1960; Burke and Rolland 1966; Margrave et al. 1975). Evidently, the time of minimum is unaffected, as the ephemeris  $\text{Min I} = 3740.5582 + 1^d.1952492 E$  represents all minima satisfactorily. We cannot explain the time quoted by Margrave (1979), 3796.7303, which is nearly 7 min earlier than our time.

Table I  
Times of primary minima

Binary HJD-2440000	Binary HJD-2440000
K O Aql 4487.7954 ± 0.0001	U Cr B 3671.6922 <sup>a</sup>
RZ Cas 3741.7533 ± 0.0001	4313.8051 ± 0.0002 <sup>b</sup>
3759.6822 ± 0.0001	4351.7817 ± 0.0001 <sup>b</sup>
3766.8536 ± 0.0000	4382.8505 ± 0.0001
3796.7349 ± 0.0000	AI Dra 3659.6606 ± 0.0002
4121.8432 ± 0.0002	4009.7139 ± 0.0001
4127.8190 ± 0.0001	4015.7079 ± 0.0001
4151.7241 ± 0.0001	TT Lyr 4383.8555 ± 0.0001 <sup>c</sup>
4181.6054 ± 0.0001	RW Mon 3864.7101 ± 0.0001
4273.6387 ± 0.0000	3883.7710 ± 0.0001

<sup>a</sup>Determined graphically.

<sup>b</sup>Omitted u; in the first eclipse, u was early by 0.0017 day; in the second, u was late by 0.0020 day.

<sup>c</sup>Omitted u, which was late by 0.0010 day.

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