

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

Number 1930

Konkoly Observatory
 Budapest
 1981 March 9

HU ISSN 0374-0676

PHOTOELECTRIC TIMES OF MINIMA
 OF ECLIPSING BINARIES

The following times of minima have been determined from photoelectric V-filter observations made using the 40-cm f/18 Cassegrain reflector of the University of Montana. The observing procedure was the same as that described in IBVS No. 1478 (Margrave et al., 1978).

Table I. Heliocentric Times of Primary Minima

Star	Hel. JD-2,440,000	E	O-C	N
KO Aql	4516.6774	918	+0.0025	51
RZ Cas	4152.9197	11945	+0.0005	31
	4451.7293	12195	-0.0017	26
	4476.8307	12216	-0.0005	33
	4507.9058	12242	-0.0018	64
TV Cas	4453.8209	1577	+0.0013	69
TW Cas	4500.8105	1745	-0.0022	27
DO Cas	4451.8248	15373	-0.0045	34
	4477.8494	15411	+0.0028	30
	4516.8723	15468	-0.0002	52
AT Peg	4442.8188	3494	-0.0551	50
	4520.7515	3562	-0.0575	49

A least-squares parabolic fit was utilized to find each time of primary minimum in Table I, in which are listed the heliocentric Julian Date (minus 2,440,000) for each minimum, its epoch number E, the O-C value, and N, the number of observations used in the determination. The ephemerides used to calculate the O-C values are given in Table II.

Table II. Ephemerides for Program Stars

Star	Epoch	Period	Source
KO Aql	2,441,887.4724	2 ^d .864055	IBVS 1869
RZ Cas	2,429,875.6902	1.1952473	Herczeg and Friboes-Conde
TV Cas	2,441,595.3582	1.8125944	IBVS 1869
TW Cas	2,442,008.3873	1.4283240	IBVS 1869
DO Cas	2,433,926.4573	0.6846661	SAC 51
AT Peg	2,440,438.383	1.146105	SAC 51

Incorporating the two minima for AT Peg given in Table I into the data set which was used in IBVS No. 1869, the following updated parabolic ephemeris is obtained for AT Peg:

$$\text{Hel. JD (Min)} = 2,440,407.4370 + 1^d.14610886 \cdot E - 5.5772 \times 10^{-9} \cdot E^2.$$

This quadratic ephemeris fits all known photoelectric minima back to 1969 with a mean residual of 0^d.0017 and implies a continuous period decrease since 1969 of 15.4 seconds per century. The epoch number for the last minimum of AT Peg in Table I is E = 3589 for the quadratic ephemeris and the residual is +0^d.0016.

THOMAS E. MARGRAVE

Blue Mountain Observatory
University of Montana
Missoula, Montana 59812
USA

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