

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

Number 3552

Konkoly Observatory
Budapest
7 January 1991

HU ISSN 0374 - 0676

TIMES OF MINIMUM LIGHT FOR 17 ECLIPSES OF 7 DETACHED BINARIES

We report here on the continuation of a program of observing eclipsing binary systems suggested by Herczeg (1980), as systems that may show unusual period changes, or systems which have not been observed frequently enough to confirm period changes.

The observations were made with the 46-cm reflector at Appalachian State University's Dark Sky Observatory. The photometer is a Kitt Peak National Observatory single-channel design employing a thermoelectrically cooled EMI 9865QB photomultiplier tube with matching UBVR filters. An Astronomical Time Mechanisms Model 240V amplifier provides a voltage-to-frequency output that is integrated by a microcomputer.

The observations for a given eclipse were made through one filter only, to maximize the number of data points. The observations have not been transformed to the Johnson system, since they were only intended for timing analysis. The observations are available from the IAU Archives, file number 213.

The times of minimum light and standard errors given in Table I were calculated using the method of Kwee and van Woerden (1956), using a program written by Ghedini (1982). This algorithm has been shown by Caton (1989) to give the most accurate estimation of time of conjunction for asymmetric or distorted light curves.

We gratefully acknowledge the partial support provided by NSF Grant AST-8705770.

Table I

System	Type of Eclipse	Heliocentric JD (-2400000)	Comparison Star	Filter
RT And	Primary	47082.75694 +0.00061	BD +52 ^o 3384	V
RX Ari	Primary	47121.58061 +0.00023	BD +21 ^o 0311	V
	Secondary	47208.57714 +0.00096	" " "	V
	Primary	47473.71053 +0.00028	" " "	V
WW Aur	Primary	46840.73088 +0.00016	BD +32 ^o 1320	R
AW Cam	Secondary	47543.75928 +0.00021	BD +69 ^o 0390	R
	Primary	47596.59558 +0.00076	" " "	R
	Primary	46836.81707 +0.00031	" " "	R
	Primary	46877.70027 +0.00014	" " "	R
	Primary	46894.67054 +0.00037	" " "	R
	Primary	47184.69471 +0.00050	" " "	V
RX Her	Secondary	46926.76777 +0.00047	BD +11 ^o 3481	V
TX Her	Primary	46877.84439 +0.00037	BD +42 ^o 2822	R
	Primary	47324.82068 +0.00013	" " "	V
	Primary	46974.65447 +0.00031	" " "	R
CM Lac	Primary	47073.72594 +0.00034	BD +43 ^o 4110	V
	Primary	47508.59652 +0.00048	" " "	V

DANIEL B. CATON, WANDA C. BURNS, R. LEE HAWKINS

Dark Sky Observatory
Department of Physics and Astronomy
Appalachian State University
Boone, North Carolina 28608 U.S.A.

References:

- Caton, D. B. (1989), Bull. A. A. S. **21**, No.1, 714.
- Ghedini, S. (1982). Software for Photometric Astronomy, Willman-Bell, Richmond, VA, p. 46.
- Herczeg, T. J. (1980), in Close Binary Stars: Observations and Interpretation, ed. M. K. Plavec, D. M. Popper and R. K. Ulrich, (Dordrecht: Reidel), 89.
- Kwee, K. and van Woerden, H. (1956). B.A.N. **12**, 327.