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TIMES OF MINIMA OF ECLIPSING BINARIES

During the summer and fall of 1971, the writer observed several eclipsing binaries photoelectrically with the 12-inch Clark refractor at Mt. Hamilton. A 1P21 photomultiplier, refrigerated with dry ice, and a yellow filter (Corning No.3385) were used in the photometer. Using magnitude differences with respect to nearby comparison stars, times of eclipse minimum were obtained for eight binaries. The individual times of minimum are listed in the following table. These are primary eclipse minima, unless noted otherwise. The O - C values were computed using the elements listed in the 1969 General Catalogue of Variable Stars, except for MR Cyg (see remarks).

star	J.D. Min. hel. 2441000 +	estim. error	O - C
BX And	210.805	±0.001 day	+0.003 day
	213.858	0.001	+0.004
	276.697	0.001	+0.002
XX Cep	214.61	0.01	-0.01
CQ Cep	193.861 <sup>x</sup>	0.002	+0.009
	207.820	0.002	+0.018
	216.854 <sup>x</sup>	0.002	+0.025
	222.598	0.005	+0.024
TV Cet	275.962	0.001	+0.042
MR Cyg	172.810	0.005	-0.003
	209.707	0.002	-0.001
	214.735	0.005	-0.004
S Equ	218.866	0.005	+0.004
SW Lac	192.764 <sup>x</sup>	0.0002	-0.0254
	192.926 <sup>x</sup>	0.0005	-0.0248
U Sge	203.802	0.001	+0.007

<sup>x</sup>secondary eclipse

XX Cephei: An O-C curve has been published by J.M.Kreiner (1971), based on different elements. The observed minimum, with an O-C of -0.05 day from those elements, seems to be consistent with an interpretation in terms of a cyclic period variation.

TV Ceti: The present observations indicate primary eclipse is partial, with a depth of  $0^m.72$ , and a duration of 7.4 hours. The large O-C indicates that revision of the elements is desirable. Using the epoch of the G.C.V.S. elements, and the observed minimum, the elements derived are: Hel. J.D. Min.= 2441275.962+9.1032884 E.

MR Cygni: The elements used to compute the O-C values are those given by J.C. and R.H. Koch (1962):

Hel. J.D. Min.= 2427013.6177+1.6770337 E

SW Lacertae: A light curve was assembled from the observations, which included photometry from five nights. This indicated that the visual magnitude difference between primary minimum (phase 0.0) and phase 0.25 was  $0^m.81$ .

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References:

- J.M. Kreiner, Acta Astronomica 21, no.3, p.365 (1971)  
J.C. Koch, R.H. Koch, Astronomical Journal 67, 462 (1962)