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TIMES OF MINIMA FOR SOUTHERN HEMISPHERE ECLIPSING BINARIES

A photoelectric survey in the uvby β filter system has been undertaken at Cerro Tololo Inter-American Observatory on approximately 315 southern hemisphere eclipsing binary stars. The major purpose of this study was to determine accurate colors in and out of the minima, accurate depths of minima, and better ephemerides where necessary. One result of these observations has been the determination of times of minima for many of the program stars. These are presented here.

For each star the average time of minimum in all filters is listed in Table I. Since coverage was generally not symmetrical for ingress and egress, the tracing paper technique has been used throughout.

Table I

Times of Minima-Determinations

<u>Star</u>	<u>J.D. Hel. (2444000.0+)</u>	<u>Minimum</u>
AD Phe	250.5863	I
AA Cet	238.5531	I
RU Eri	249.6161	I
BZ Eri	233.5800	I
RV Pic	233.8021	I
TU CMa	236.7892	II
FF CMa	236.6869	II
MQ Pup	234.5649	I
VZ Hya	236.6532	I
RS Cha	236.7639	I
RZ Pyx	245.7195	II
CW Vel	248.7584	I
RV Crt	247.8151	I
RW CrA	462.5323	I
V681 CrA	460.6822	I
U Sct	468.6658	I
V505 Sgr	461.5901	I
V Gru	463.8040	I
CZ Aqr	468.8852	I

Many stars were also observed only during ingress and minimum or during the minimum and egress. Although accurate times of minima could not be determined, estimates of the center of the minimum have been made for those stars whose ephemerides as listed by Wood et al. (1980) seem significantly off. These are presented in Table II.

Table II
Times of Minima-Estimates

<u>Star</u>	<u>J.D. Hel. (2444000.0+)</u>	<u>Minimum</u>
TY Men	253.709	I
CW CMa	235.679	I
UZ Pup	253.623	I
TT Pyx	234.800	I
GL Car	283.497	I
SS Cen	382.650	I
ES Lib	458.753	II
V535 Ara	458.533	II
RS Sct	458.753	II
BL Tel	470.668	II

In addition the star V Gru has been found to have a period significantly different from that listed by Wood et al. (1980). From observations made on several nights during August 1980 an approximate period of 0.4833 days has been determined. Combined with the new time of minimum listed above the new provisional light elements are

$$\text{JD } 2444463.8040 + 0^{\text{d}}.4833$$

The light curve is a W-type with unequal minima.

Other results from this survey are being published elsewhere.

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Reference:

Wood, F.B., Oliver, J.P., Florkowski, D.R., and Koch, R.H., 1980, A Finding List for Observers of Interacting Binary Stars

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