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THE ORBITAL PERIODS FOR SIX CATAclySMIC BINARIES

The orbital periods for VW Vul, V380 Oph, CM Del, TW Vir, V794 Aql, and SY Cnc have been determined from radial velocity variations of their H α emission lines. All observations were obtained using the Mount Lemmon 1.5 m reflector equipped with a Robinson-Wampler Image Dissector Scanner¹. The radial velocities were measured using the method described by Shafter². Table I summarizes the results of the radial velocity studies of the six binaries.

Table I*

Object	Designation	Date(s) of Observation	Duration of Observations (hrs)	Orbital Period (days)	K ₁ (km/s)	Ref.
VW Vul	UG?	13-Jul-82	5.1	0.073	100:	3
V380 Oph	NL?	10-May-83	4.5	0.16	100:	5
CM Del	UG?	21-Jul-82	5.4	0.16	150:	3
TW Vir	UG	27-Jan-82	1.7	0.18266(66)	88+5	4
		28-Jan-82	3.0			
		31-Jan-82	3.6			
		28-Apr-82	5.6			
		29-Apr-82	3.8			
V794 Aql	UG?	15-Jul-82	5.0	0.23:	100:	3
SY Cnc	ZC	12-Feb-83	3.3	0.38	90:	4
		13-Feb-83	7.4			
		16-Feb-83	4.0			

*A colon indicates an uncertain value. The references are for finding charts and coordinates.

The only system with a sufficiently accurate period to warrant giving an ephemeris is TW Vir. For this system we find following expression for the time (T) of superior conjunction of the broad H α emission (i.e. the accretion disk surrounding the white dwarf):

$$T = \text{HJD } 2445088.7121 + 0.182666 E \\
\pm .0022 \quad \pm .000066$$

A more elaborate discussion of the above systems will appear elsewhere. In particular, additional radial velocity data on V794 Aql, TW Vir, and CM Del obtained by K. Horne, P. Szkody, and the author using the coude

Spectrograph of the Mount Wilson 100" reflector will be included to improve the accuracy of the orbital elements.

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