THE BINARY SYSTEM V368 CASSIOPEIAE

The binary system V368 Cassiopeiae was observed at the Bucharest Observatory with a 50-cm telescope using an EMI 6256-B uncooled photomultiplier in the interval 1978-1981. The light curve has been obtained in the UBV-system using the comparison star BD+58°567.

The observations have been represented using the ephemeris

$$\text{Phase} = (\text{Hel. J.D.} - 25554.320)/4.451642$$

given in the Second Supplement to the Third Edition of the GCVS (1974). In Figure 1 the U light curve is represented from 298 individual observations. The preliminary elements have been computed using a Horak-type model while
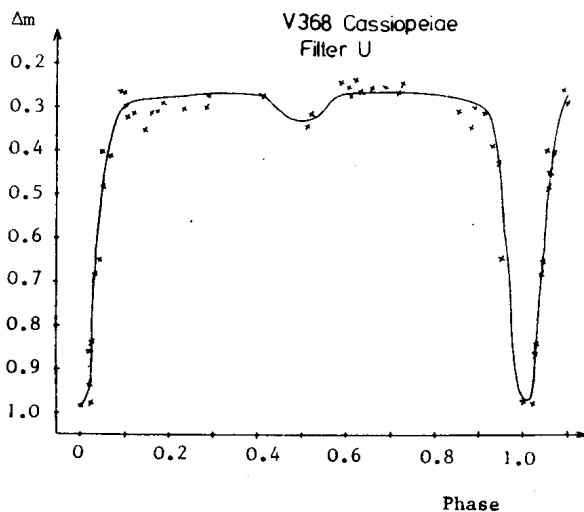

Figure 1

the improvement of the solution yielded from the WINK-model by Wood. The results are given in Table I and the theoretical light curve is represented in Figure 1 by solid line.

Table I

Fixed parameters	Auxiliary parameters	Variable parameters
$T_1 = 23800^\circ K$	$a_1 = 0.3271$	$r_1 = 0.3196$
$u_1 = 0.250$	$b_1 = 0.3197$	$r_2 = 0.2147$
$u_2 = 0.600$	$c_1 = 0.3120$	$i = 89^\circ.731$
$w_1 = 0.0$	$a_2 = 0.2204$	$T_2 = 9705^\circ K$
$w_2 = 0.5$	$b_2 = 0.2136$	$L_1(\text{norm}) = 0.9679$
$q = 0.47$	$c_2 = 0.2103$	$L_2(\text{norm}) = 0.0321$
	$L_1(\text{app}) = 0.2945$	
	$L_2(\text{app}) = 0.0098$	

The agreement between the theoretical light curve and observations (crosses) seems to be satisfactory. Similar solutions have been obtained for B and V filters.

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Reference:

Kukarkin, B.V. et al., (1974) The Second Supplement to the Third Edition
    of the GCVS, Moscow, Nauka