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

Number 2553

Konkoly Observatory
Budapest
16 July 1984

HU ISSN 0374-0676

PHOTOELECTRIC LIGHT CURVES AND PERIOD OF HD 199497

HD 199497 = BD $+19^{\circ}4574$ was first discovered to be a possible W UMa type eclipsing binary from its appearance on objective prism plates in 1966 and then observed photoelectrically by Bond (1976). He used the y filter of the Strömgren four-colour system and obtained 24 photoelectric observations. These observations showed that it was a new W UMa type eclipsing system with a range of 0.15 mag. His light elements are

$$\text{JD Hel(Min I)} = 2442687.418 + 0^{d}.3638 \cdot E$$

Photoelectric observations of HD 199497 were made with the 48 cm Cassegrain telescope of the Ege University Observatory on six nights in the summer of 1982. During the observations an unrefrigerated EMI 9781A photomultiplier tube and B,V filters close to the standard UBV system were used. A total of 199 observational points have been obtained in each colour. BD $+19^{\circ}4568$ was used as comparison and BD $+19^{\circ}4576$ as check star. No evidence for the variability of the comparison star was found.

We obtained three primary and four secondary minima. The depths of the minima are nearly equal but the mean depth of the primary minima is slightly

Table I

The times of minima

Hel.Min.JD.	Min.	Filter	O-C	Reference
2442687.418	II	y	0.000	Bond (1976)
45136.4045	II	B,V	0.0009	This paper
145.4995	II	"	0.0000	" "
146.4058	I	"	-0.0033	" "
149.5053	II	"	0.0036	" "
150.4082	I	"	-0.0031	" "
177.3357	I	"	0.0005	" "
177.5184	II	"	0.0013	" "

greater than that of the secondary. Using all the times of the minima given in Table I, the new light elements are recalculated by the method of weighted least squares as follows:

$$\text{JD Hel(Min I)} = 2445146.4091 \pm 9 + 0^{d}.3638368 \pm 4 \cdot E$$

According to the new light elements the primary minimum of Bond (1976) is a secondary minimum. The light and colour curves are presented in Figure 1 where the individual magnitude differences (variable minus comparison) have been plotted against the phases. The phases and O-C values in Table I were

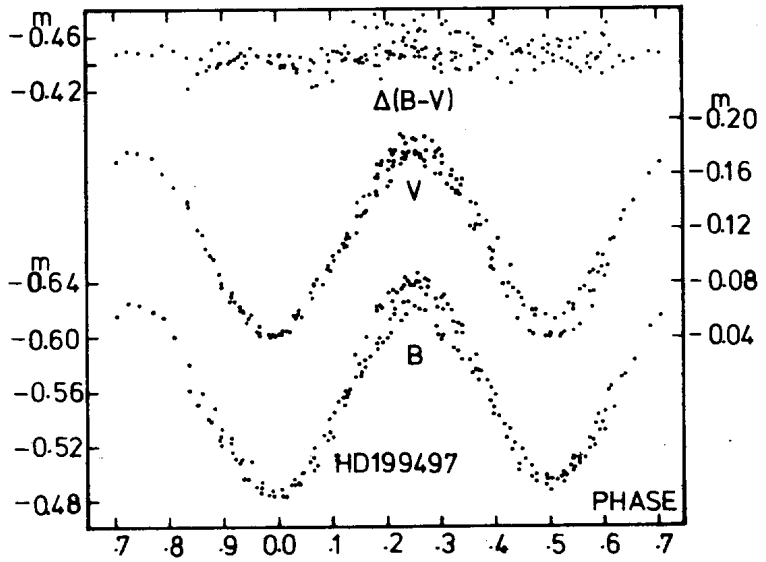

Figure 1
Light and colour curves of the HD 199497

calculated with the new elements. The light curves show that HD 199497 is a typical W UMa type eclipsing binary. The dispersions exceeding the limits of observational errors are seen on the light curves.

C. SEZER, Ö. GÜLMEN, N. GÜDÜR

Ege University Observatory
Bornova-Izmir-Turkey

Reference:

Bond, H.E., 1976, I.B.V.S. No. 1214