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ECLIPSING BINARIES FOUND SPECTROSCOPICALLY
III. HD 199497

In the two previous papers of this series (Bond 1970, 1975), the writer has shown that eclipsing binaries of the W Ursae Majoris type show diffuse lines on moderate-dispersion spectrograms. Hence it has proven possible to discover new members of the W UMa class purely from their appearance on objective-prism plates.

The writer noted HD 199497 (1900 position: $20^{\text{h}}52^{\text{m}}5, +19^{\circ}15'$, HD spectral type G5) as having diffuse spectral lines on a plate obtained in 1966 with the Michigan Curtis Schmidt telescope and a 10° objective prism. During October 1975 and April 1976, 24 photoelectric observations of HD 199497 were made with 41- and 61-cm telescopes at Kitt Peak National and Cerro Tololo Inter-american Observatories. For convenience, the y filter of the Strömberg four-colour system was used, and the nearby K-type star HD 199549 was chosen as comparison star.

These observations showed that HD 199497 is indeed a new W UMa-type eclipsing system, with a range of 0.15 mag. The following ephemeris was found:

$$\text{JD}_{\ominus} \text{ (primary minimum)} = 2442687.418 + 0^{\text{d}}3638 \cdot E.$$

The light curve obtained with these elements is shown in Fig. 1. The magnitude difference in the y band is in the sense variable minus comparison, and the conversion to V magnitudes of the variable star is shown on the right-hand side of the figure.

Two further F- or G-type stars showing diffuse lines on Curtis Schmidt objective-prism plates, CD -33^o362 (1900: $0^{\text{h}}54^{\text{m}}4, -32^{\circ}59'$) and HD 114726 (1900: $13^{\text{h}}07^{\text{m}}3, +3^{\circ}13'$) were also monitored photoelectrically. Magnitude ranges of 0.05 mag were found for both stars. Because of the small amplitudes and marginal

