

## Differential BV photometry of the EW variable NSV 7457 Her

In a recent paper, Vandebroere (1993) reported photoelectric photometry of the variable NSV 7457 = BV 103 = BD+50°2255. After a short overview of the observational history of this star, she discusses her photometry which yields the light curve of a typical EW eclipsing binary with the elements:

$$JD_{\min, \text{hel}} = 2447643.1786 + 0.4190306^d \cdot E \text{ (Vandebroere, 1993).}$$

In the course of an observing run at the Rosemary Hill Observatory, operated by the Department of Astronomy of the University of Florida, Gainesville, U.S.A., in early 1993, we obtained independent BV photometry, reported here.

The details of our observing procedures are given in Diethelm (1993).

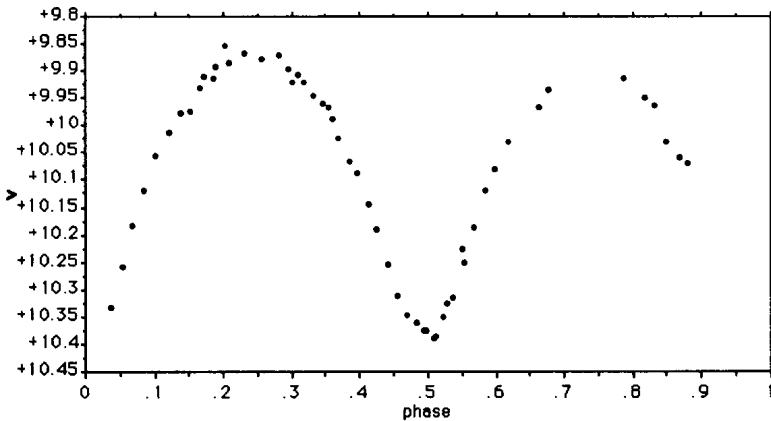
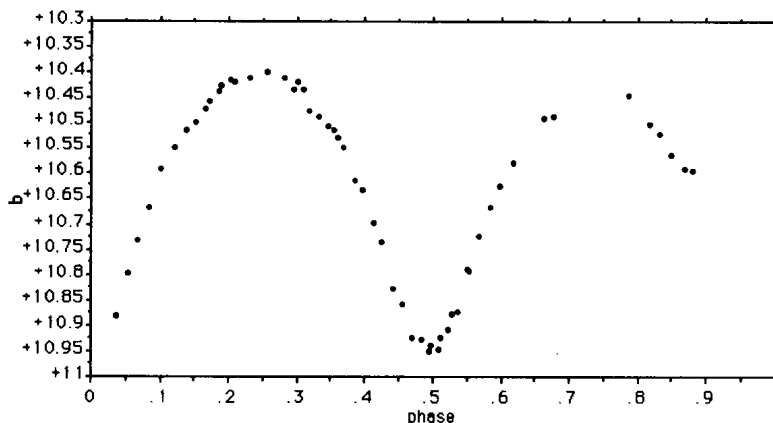


Figure 1: V light curve of NSV 7457 Her

As comparison star, we chose a star about 22<sup>s</sup> preceding and some 4' north of the variable. This star of similar colour and brightness as NSV 7457 proved to be constant to within the accuracy of the photometry. Using  $\sigma$  Her as check star, we find  $V = 10.67 \pm 0.03$  mag and  $B = 11.10 \pm 0.03$  mag for this comparison star.

In Figure 1 and 2, we show our 55 measurements in V and B respectively, folded with the elements of Vandebroere (1993). They were obtained during five nights between JD 2449115 and 2449124. Although the light curve is not completely covered by our observations, they can serve to fully confirm the conclusions drawn by Vandebroere (1993).

The 29 observations between phases 0.31P and 0.68P, obtained on JD 2449116, 2449122 and 2449124, yield a time of secondary minimum at  $O = 2449124.65948 \pm 0.00012$  (mean of determination in both colours with the Kwee-van Woerden (1956) algorithm).



**Figure 2:** B light curve of NSV 7457 Her

**Acknowledgements:** We would like to thank the staff of the Dept. of Astronomy of the University of Florida for their hospitality and for the allocation of observing time at Rosemary Hill Observatory. The continuing technical assistance by J. Baker is especially acknowledged. This research is supported by a grant from the Emilia Guggenheim-Schnurr foundation.

R. Diethelm  
BBSAG  
Rennweg 1  
CH-4118 Rodersdorf/Switzerland

**References:**

- Diethelm, R: 1993, *Inform. Bulletin on Variable Stars*, No. 3903  
Kwee, K. K, van Woerden, H: 1956, *Bull. Astron. Soc. Netherlands* **12**, 327  
Vandebroere, J: 1993, *Inform. Bulletin on Variable Stars*, No. 3946