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PHOTOELECTRIC MINIMA AND PERIOD CHANGES OF CO LACERTAE

CO Lacertae (BD+56°2857) is an eclipsing system known by the short period of the apsidal motion. The variable nature of CO Lac was announced by Zonn (1933). The elements and apsidal motion period were given by Zonn (1936, 1950) and Semeniuk (1967). The spectroscopic orbital elements were determined by Smak (1967). Photoelectric observations and times of minima were published by Kreiner (1968).

During the period July 1981 - August 1982, CO Lac was observed photoelectrically with the 50 cm reflector equipped with an EMI 9789 QB photomultiplier at Cracow Astronomical Observatory. The Schott filter GG-11 (in V region) was used. The star "b" from the Wright's chart of CO Lac (Wright, 1937) was used as a comparison star. No variation was detected in the light of the comparison star.

The times of minima obtained during the period of observations are listed in Table I.

Table I

J.D. Hel.	Epoch	O-C ₁	O-C ₂	Remarks
2400000 +				
44808.3533 ± 8	11201	+0. ^d 0143	+0. ^d 0018	primary
44821.4349 ± 9	11209.5	-0.0129	-0.0004	secondary
45171.5153 ± 3	11436.5	-0.0136	-0.0019	secondary
45181.5666 ± 5	11443	+0.0134	+0.0017	primary

The epoch, O-C₁ and O-C₂ values have been calculated from the ephemeris given by Semeniuk (1967):

$$\text{Min. Hel.} = \text{J.D. } 242\,7534.0728 + 1.^d5422075 E \quad (1)$$

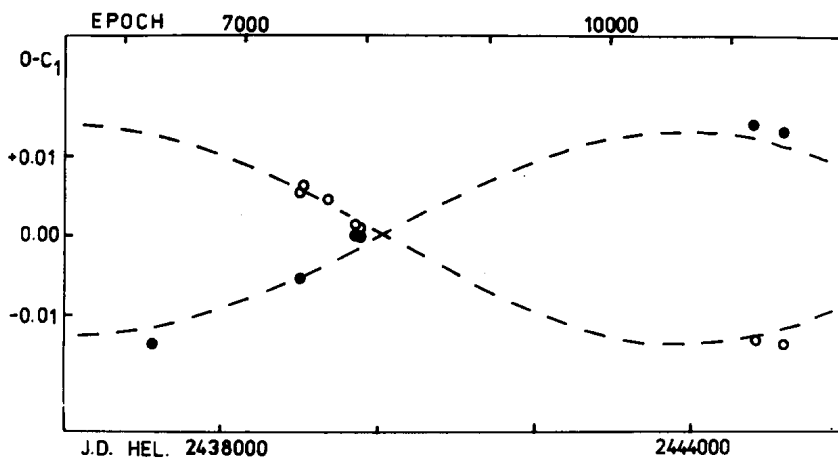


Figure 1

$$\begin{aligned}
 \text{Min. Hel. (prim.)} &= \text{J.D. } 242\,7534.0728 + 1^{\text{d}}5422075 \text{ E} - \\
 &\quad - 0^{\text{d}}0133 \cos(157^{\circ}.7 + 0^{\circ}.0359 \text{ E}) \\
 \text{Min. Hel. (sec.)} &= \text{J.D. } 242\,7534.8439 + 1^{\text{d}}5422075 \text{ E} + \\
 &\quad + 0^{\text{d}}0133 \cos(157^{\circ}.7 + 0^{\circ}.0359 \text{ E})
 \end{aligned}
 \quad \left. \vphantom{\begin{aligned} \text{Min. Hel. (prim.)} \\ \text{Min. Hel. (sec.)} \end{aligned}} \right\} (2)$$

Fig. 1 shows the $O-C_1$ curve for all photoelectric times of minimum of CO Lac published by Semeniuk (1967) and Kreiner (1968). The times of minimum light given in that investigation are also included. The full dots denote primary minima, the open ones the secondary minima.

The inspection of Fig. 1 leads to the conclusion that the Semeniuk's elements (2) are in good agreement with recent observations.

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References:

- Kreiner, J.M. 1968, *Acta Astr.*, 18, 343.
 Semeniuk, I. 1967, *Acta Astr.*, 17, 223.
 Smak, J. 1967, *Acta Astr.*, 17, 245.
 Wright, F. 1937, *Harvard Ann.*, 89, 171.
 Zonn, W. 1933, *Wilno Bull.*, 14.
 Zonn, W. 1936, *Wilno Bull.*, 17, 13.
 Zonn, W. 1950, *Toruń Bull.*, 9, 18.