

CYCLIC AMPLITUDE VARIATIONS OF RU CAM

Nikolov's preceding note and Smak's report in IBVS No 135 are based on different material. Herewith I take into consideration all available photoelectric observations (Ref. 1-11).

The phase shifts between different sets of observations of RU Cam can be seen from the O-C diagram in Fig. 1. The observed photoelectric V magnitudes of maximum and minimum light are plotted against epoch number in Fig. 2. Both maxima and minima show cyclic variations, but with opposite phase. The amplitude variations are primarily due to differences in the brightness of the minima. The broken curves in Fig. 2 are tentative representations of the observational data with a cycle of $84 P \sim 5.1$ years. This cycle-length is corroborated by visual observations of amateur observers of the Danish "Astronomisk Selskab", who found very faint minima around the epochs $E = -148$ and $E = +20$ respectively (Edelberg, M. 1932, AN 246, 176; Nielsen, A. and Sjögren, T. 1943, AN 273, 270). The cycles are of very different amplitude and shape. Secondary cycles are very common in RR Lyrae variables, and as we now see, they may be present also in Population II Cepheids.

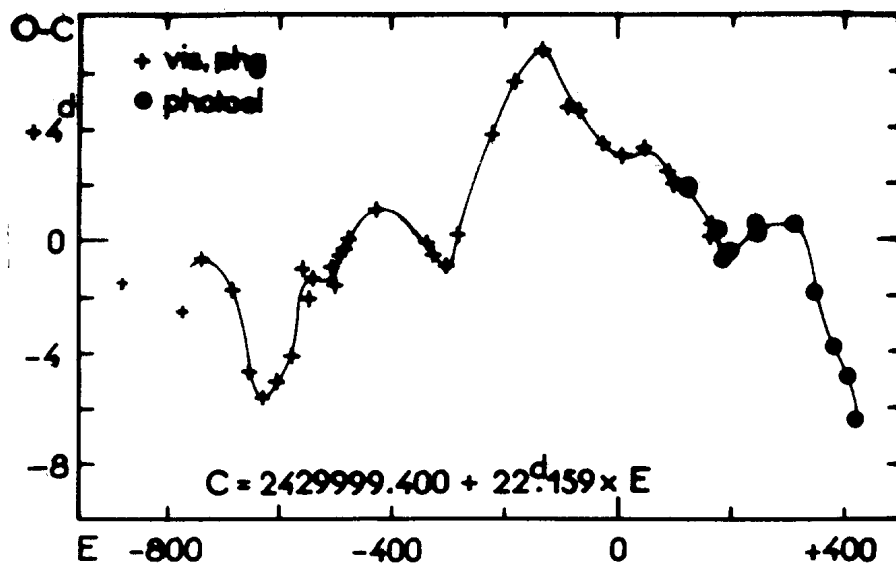


Fig. 1

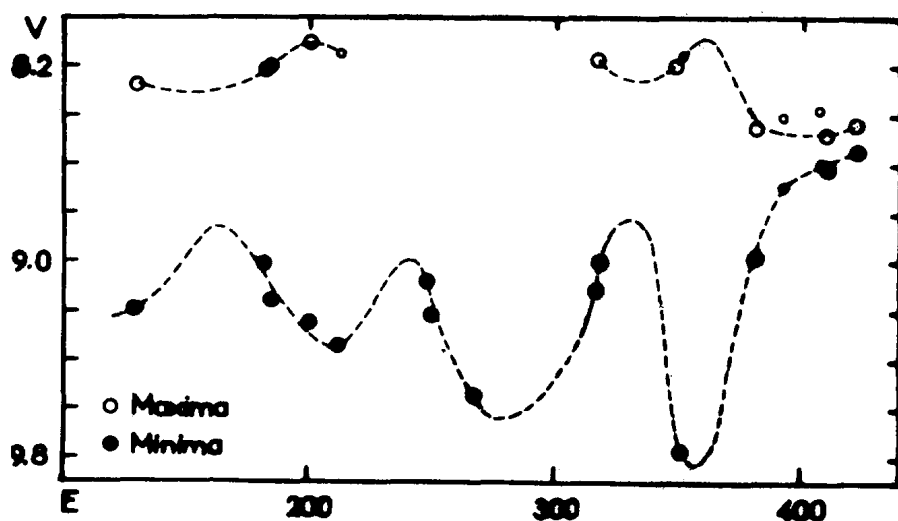


Fig. 2

If the above interpretation is correct, we may expect in the next months, or at latest next year, an increase of the amplitude. At present (1966 August) the amplitude in V is only $0^m.08$ (Ref. 11).

Konkoly Observatory, Budapest

L. DETRE

References to photoelectric observations:

1. / Eggen, O. J., Gascoigne, S. C. B. and Burr, E. J. 1957. MN 117, 406
2. / Lenouvel, F. et Jehoulet, D. 1953. Ann. d' Aph. 16, 139
3. / Lenouvel, F. et Daguillon, J. 1954. JO 37, 137
4. / Lenouvel, F. et Flogere, Cl. 1957. JO 40, 37
5. / Delsemme, A. H. et Delsemme-Jehoulet, D. 1958. Mém. Soc. Roy. Sci. Liège, 4-e série 20, 328.
6. / Mitchell, R. I., Irlarte, B., Steinmetz, D., Johnson, H. L. 1964. Tonantzintla y Tacubaya Bol. Num. 24.
7. / Michalowska Smak, A., Smak, I. 1965. Acta Astr. 15, 333.
8. / Wamsteker, W. 1966. IBVS No 128.
9. / Smak, I. 1966. IBVS No 135.
10. / Demers, S., Fernie, J. D. 1966. ApJ 144, 440.
11. / Detre, L., Szeidl, B. 1966. unp. Ny. 1524/1966.