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PHOTOELECTRIC MINIMA OF ECLIPSING BINARIES

The list below contains minima of eclipsing binaries observed photoelectrically at the Fort Skala Observatory in Cracow. The times of minima and limits of errors were obtained by the tracing-paper method of Kordylewski (Szafraniec 1948). The consecutive columns of the list contain the name of the star, instrument used (Grubb, $\phi = 20$ cm; R tel, $\phi = 50$ cm), filter used, heliocentric time of minimum, limit of error and O - C.

Star	inst.	filter	JD hel 2440000+	lim.er.	O - C
o And	Grubb	B	2319.4309	$\pm 0^d.0035$	$+0^d.0162$
IM Aur	R tel	B	2749.4431	0.0015	-0.0105
		V	2749.4436	0.0010	-0.0100
GK Cep	R tel	V	2685.5421	0.0025	-0.0015

For o And the value of O-C is obtained according to the elements given by Schmidt (1959). Olsen (1972) suggests that the changes of light may be explained also by intrinsic variations of a single shell star with the following elements:

$$\text{Min I JD hel} = 2439470.628 + 1^d.0185 \text{ E.}$$

In this case O - C = $+0^d.0584$.

For IM Aur and GK Cep the values of O-C are obtained according to elements given by Dworak (1974, 1975).

From the shape of the light curve IM Aur seems to be an Algol-type star (Dworak 1974, Kondo 1966, Margoni et al. 1966), but in the First Suppl. to the Third Ed. of the GCVS (Kukarkin et al. 1971) it is classified as a β Lyrae-type variable.

From the morphological point of view the star IM Aur may be "an intermediate type between Algol-system and β Lyrae-system", similarly as the star GK Cep is "an intermediate type between a β Lyrae and W Ursae Maioris-system" (Dworak 1975). The case of IM Aur and GK Cep is a good example for the non-adequatness of the classical division of eclipsing binaries.

Further observations of these three interesting variable stars are very needed.

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