A new faint eclipsing variable star

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COMMUNICATIONS FROM THE OBSERVATORY AT LEIDEN.

A new faint eclipsing variable star, by *Ejnar Hertzsprung*.

The star $10^h42^m22^s.4$, $-57°48'.5$ (1875) was found to be a variable of the eclipsing type on plates taken with the Franklin-Adams instrument of the region round η Carinae. The star was estimated on 320 plates and the observed range is about ·8 steps or about a magnitude.

No satisfactory interpretation of the observations of this variable could however be found. Roughly there is an apparent period of $25^d.5$, but occasionally there seems to be variation during the same night suggesting a shorter period, possibly $1/(1+1/25^d.5) = {}^d.96$. The star was near minimum at J. D. hel. M. T. Grw. 2423818·59, 3844·29 and 3946·22.

The estimation of the brightness of this variable is generally difficult owing to its faintness (about $13\frac{1}{2}^m$ at maximum brightness) and nearness to a brighter star. It is evident that a few erroneous observations may cause considerable trouble in attempts to find the correct period. Observations made at other longitudes would be of great help in a case like this.

A new peculiar variable star, by *Ejnar Hertzsprung*.

On plates of the region round η Carinae taken with the Franklin-Adams telescope during the first 7 months of 1924 a star was found, which was only visible for about 10 days. The coordinates of the object are $10^h23^m49^s.4$, $-58°19'.6$ (1875). This is nearly in the centre of gravity of the triangle formed by *C. P. D.* $-58°2230$ ($9^m.8$), 2238 ($9^m.6$) and 2240 ($9^m.2$). Using a comparison star at the position $+{}^s.3$, $+'.8$ relatively to the variable, the provisional estimates in "steps" are given in the accompanying Table 1.

After a quick rise in brightness, which during the night J. D. 3880 amounted to $^s.75$ in 6 hours, the star was fairly constant for a week, during which time I estimate its photographic magnitude to have been about 13^m or 14^m. Then the star again dropped to invisibility.

The star was not found on any other of the above mentioned plates, but it is visible ($+{}^s.35$) on one old plate from J. D. hel. M. T. Grw. 2421722·2678.

The object therefore does not seem to be a proper Nova. Possibly it will prove to be similar to U Geminorum. At any rate it deserves further attention.

TABLE 1.

J. D. hel. M. T. Grw.		J. D. hel. M. T. Grw.	
	s		s
2423879·3536	1·8 :	2423884·2382	— ·1
80·2352	·7	·2964	·0
·2609	·6	·3234	·0
·2900	·45	·3795	·0
·3204	·4	·4065	·0
·3488	·1	85·2756	·0
·3751	·3	·3026	·0
·4312	·0	·3282	·0
·4859	— ·05	·3573	— ·15
81·3101	— ·4	·3830	— ·05
·3399	— ·1	·4093	— ·1
·3683	— ·25	·4384	— ·2
·4278	— ·3 :	·4661	— ·2
·4555	·0	86·3131	·35
·4853	·05 :	·3401	·15
82·2679	·0	·3657	·25
83·4605	·0	·4439	·1
·4895	·0	87·2528	·0
		·3720	·3
		·3976	·4
		·4246	·4 :
		89·4655	1·7 :