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Note on the eclipsing variable GN Normae

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Note on the eclipsing variable GN Normae, by *P. Th. Oosterhoff.*

This eclipsing variable was discovered by E. KRUYTBOSCH, who gave a discussion of his estimates on Franklin-Adams plates in *B.A.N.* No. 236 (star *d*). The variable is of special interest because of the asymmetrical position of the minima and the difference in width between them. The data of the solution of the period by the method of least squares given in the paper mentioned above (Table 4, *d*) should be replaced by the two following solutions for the minima A and B separately.

Elements of minimum A:

$$\text{J.D. } 2425831^{d}\cdot24 + 5^{d}\cdot7040\ E \pm 8 \text{ (m.e.)}$$

Elements of minimum B:

$$\text{J.D. } 2425720\cdot55 + 5\cdot70376\ E \pm 23 \text{ (m.e.)}$$

min. A 2420000+	E	O—C	min. B 2420000+	E	O—C
d		d	d		d
5443·38	0	+ ·01	5418·23	0	+ ·02
5791·38	61	+ ·07	5435·29	3	— ·03
5808·29	64	— ·13	5452·42	6	— ·02
5831·28	68	+ ·04	5475·27	10	+ ·02
6036·54	104	— ·05	5720·53	53	+ ·02
6076·57	111	+ ·06	6125·47	124	— ·01
6093·63	114	·00			

Combination of the two values for the period yields:

$$5^{d}\cdot70378 \pm 22 \text{ (m.e.)}$$

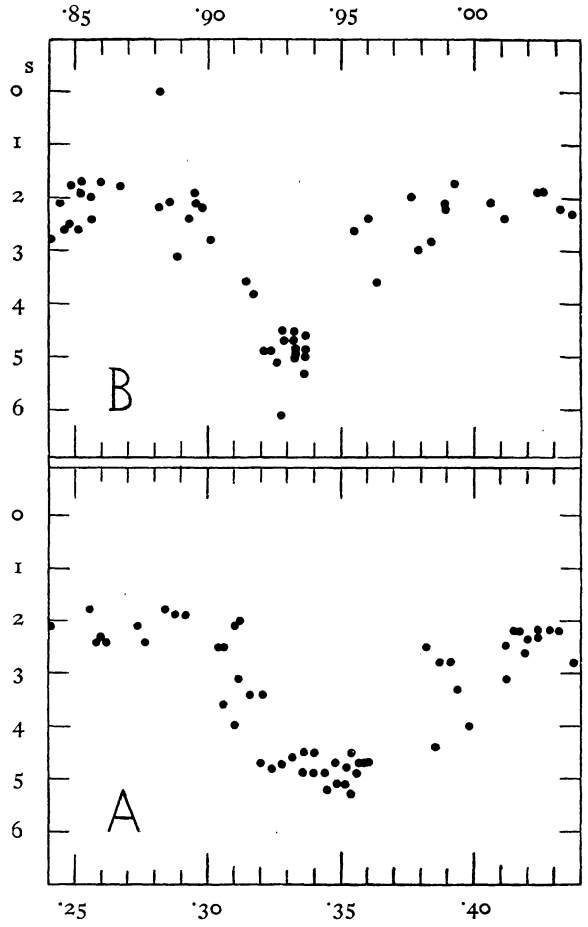
It is in accordance with the period derived by SHAPLEY and SWOPE [1]), which should have considerably more weight.

The mean error of a single epoch is found to be $\pm\,^{d}\cdot08$ and $\pm\,^{d}\cdot025$ for A and B respectively. This difference is partly due to the difference in width between the minima. For the observations near minimum phases have been computed with the formula:

$$\text{phase} = \cdot175322\ (\text{J.D.}—2420000).$$

They are plotted in the accompanying figure.

The ratio between the widths is still very uncertain. If we adopt the value 2/3 the eccentricity is found to be ·24.



[1]) *Harvard Bulletin*, No. 909, 8.

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