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PERIODIC LIGHT VARIATIONS OF THE DWARF NOVA CN ORIONIS*

Photometric observations of CN Ori have been performed from 1981 December 3 to 18. The system decreased from an eruption and after a few days at minimum started for an other outburst. During all nights a periodic humplike feature was detected. Fig. 1 shows a condensed light curve.

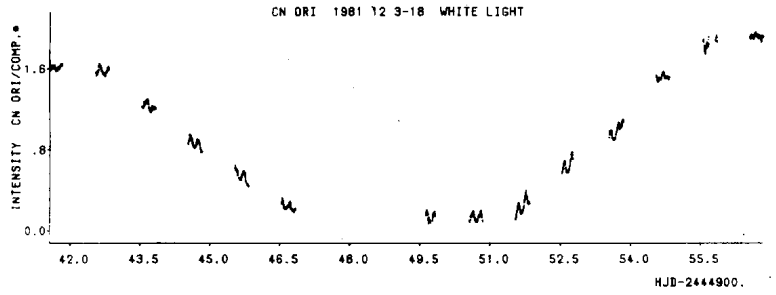

Figure 1 Light curve of CN Orionis

*Based on observations collected at the European Southern Observatory.

Using the nights with HJD-2444900 + 44 to 54 one obtains the following ephemeris for the light maximum:

$$HJD_{max} = 2444951.6150 \underset{\pm 5}{} + .16308 \underset{\pm 4}{} \cdot E$$

There are considerable variations in shape and phase of the hump which are stronger during the brighter stages and prevent a more precise period determination. The hump amplitude varies not more than about 30% around the mean except during the first night when the hump is very weak. The almost periodic change in hump intensity, with a cycle of approx. 4 days, resembles the beat phenomenon of SU UMa stars. CN Ori is classified as of Z Cam type however (Bateson 1979).
No pronounced increase in hump amplitude before or during rise to maximum occurs and therefore an explanation of this outburst in terms of increased mass transfer through the hot spot producing stream seems impossible.

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Reference:

Bateson, F., M., Publ. of VSS RAS NZ No. 7, 28, 1979