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A NEW ECLIPSING BINARY IN CYGNUS

In the summer of 1970 Martha Clark, a student then working at the Maria Mitchell Observatory, discovered a new variable star at $19^{\text{h}}41^{\text{m}}04^{\text{s}} +45^{\circ}13'.0$ (1900). I have now examined this star on more than 1000 plates taken at Nantucket between 1926 and 1976. It is of the Algol type varying from about 14.0 to 15.3 pg. The best constant period I was able to derive to represent the times of observed minima is 1.811443^{d} . However, as the upper part of the Figure indicates, the scattering of the observations at and near minimum is not satisfactory. These phases were computed with the reciprocal period on the basis of the relation, $\phi = 0.552046 (\text{JD} - 2400000) - E$. Somewhat better results (lower plot) are obtained by adding a cyclical correction term to the phases, namely $\Delta\phi = 0.015 \sin 0^{\circ}.045 (\text{JD} - 2439000)$. The corresponding ephemeris then becomes,

$$\text{Min} = 2442653.610 + 1.811443E - 0.027 \sin 0^{\circ}.045 (\text{JD} - 2439000).$$

The finder chart represents an area of approximately $15' \times 15'$. Star A is BD $+44^{\circ}32'22''$ and B is $+45^{\circ}29'65''$.

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