

Note on a photographic method of observing variable stars for amateurs,

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THE method of determining the magnitudes of variable stars from measures of the diameter of their images on photographic plates is, of course, well known and formulae exist for the purpose. To obtain the plates for this method, however, a properly clock-driven apparatus is necessary and this is beyond the means of many amateurs. It has occurred to me that some work in this direction ought to be possible from star-trails taken in a fixed camera, and this would be within reach of nearly every one, and could be applied to all the brighter variables at any rate or if a telescope to take the photographs is used even fainter stars.

A method of obtaining trails has already been described in the Journal of the Society, and I need only repeat here that it consists in pointing the camera to the star to be photographed, and then exposing the plate for a few minutes and developing it in the ordinary way. It will be noticed that the trails of the brighter stars are wider than those of faint stars, and I think it should be possible to determine the magnitudes by measuring the width of the trails, and then calculating the magnitudes according to the given formula. A fine scale with a magnifying glass would probably suffice for the measurements, and there are several papers in the monthly notices of the Royal Astronomical Society on the subject of the formula which I think could be applied to the trails.

The subject is worth examination and is an investigation which can be made at one's writing table. It is a good one, therefore, for members of the Astronomical Society of India to take up, and I hope that some one will come forward to devise a method from the data available. When this has been done I shall be glad to supply him with plates of star trails from which to make experimental measures. He will, therefore, need no telescopic equipment at all. I shall also be glad to refer him to such information on the subject as I have at my disposal.

Orbit of Eros, its next opposition on April 19th, 1917,

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Eros's mean distance from the Sun is 1.458 astronomical units, with a period of 643 days. Its mean distance is less than that of any other asteroid and therefore is of great value in correcting the Sun's parallax. Its nearest approach to