NOVA (?) ORIONIS 1667

To The Editor,

A recurrence of Nova Orionis 1667 (V529 Ori) is possible within the next decade. Its history makes it one of the more mysterious objects in the sky, and some astronomers have doubted its existence. (See General Catalog of Variable Stars, II, p. 575, 1970, for bibliography.)

Gaposchkin and Gaposchkin, in Variable Stars (Cambridge, Mass., 1938, p. 236, f.n.) state, "The star recurred in about 1750, and a third apparition was apparently witnessed by Shackleton in 1892 ....There is here the bare suggestion of a period between seventy and eighty years. The star should be looked for again. In any case it is a peculiar object."

With only three observations, the argument can at best be approximate, but it indicates that Nova Orionis 1667 would be a good search target for the Nova Search Program. AAVSO areas 68, 69, 81, and 82 might prove best in this effort.

Yours truly,
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PEP OR VISUAL PHOTOMETRY?

To The Editor,

I applaud the aim expressed in "Letter From The Editor," JAAVSO 5, 63. An excellent means to bring the Journal to life.

As my contribution, I want to respond to Howard Landis' appeal in the same issue for more observers to adopt photoelectric photometry. I do not believe that advanced observers are hesitating to plunge into PEP because the observational procedures are too complicated or the reduction of data too difficult. The real obstacle is the fact that the observer must manufacture his own equipment...

The Association at one time sponsored an active telescope-lending service because good, moderate-aperture telescopes were not widely available at affordable prices. This is no longer the case, and excellent telescopes with clock drives suitable for PEP work are now owned by many members. When PEP outfits of simple and rugged design are commercially available in the same price range as 8-inch reflectors, I believe that a significant number of AAVSO observers will become active in this type of observing.

In the meantime, the Association has several members who are knowledgeable in electronics and able to fabricate PEP equipment. If these members were to perform the assembly work and provide the equipment to qualified observers at cost, several active PEP observers might be gained. Or, perhaps a lending service is again in order.

A step in the right direction would be the commercial availability of a simple, inexpensive visual photometer. Walter Scott Houston's article on page 64 of the July, 1976, Sky & Telescope and Bob Cox's note following it, suggests an idea. Houston's bar photometer, used with a refractor, provides a second comparison star image a known interval of magnitude fainter than the prime image. Using such a system, the observer must still estimate a second star's brightness by interpolation between two images.

On page 66 in Bob Cox's note is a diagram of how an off-axis round wedge would work on a reflecting telescope. However, if the reflector's full aperture were masked, and the mask had two off-axis apertures--one clear and the other containing the circular glass wedge--an iris diaphragm on the wedge aperture would allow the observer to dim the secondary image of a variable to match the primary image of a fainter comparison star. A scale on the iris diaphragm would provide a means of taking numerical readings and

calculating the difference in magnitude between two stars. Several settings, requiring only a minute or two, and made by both dimming the variable until it matches the comparison star and brightening the variable until it matches, would provide an average reading that could be more accurate than 0.1 magnitude.

Classical forms of visual photometers are fairly complicated devices, and Houston outlines their defects in his article. The design I am suggesting avoids the defects of traditional designs and permits an observer with an 8-inch reflector to put together a visual photometer of up to 3-inch aperture, with one moving part, for a few dollars. Estimating the equality of two star images is easier than estimating the brightness interval between a variable and two comparison stars, and only simple arithmetic is needed to reduce the results.

While PEP is the last word in accuracy, I can think of many observing programs that are impractical by direct visual estimates but that would be very practical with a visual photometer having a repeatable accuracy of better than 0.1 magnitude. Perhaps our observers should learn to trot before trying to sprint.

Yours truly,

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OCCULTATION INFORMATION

To The Editor,

The Chairman of the AAVSO Occultation Committee has recently announced the Council's termination of that committee's activity (see Minutes of the meeting). I would like to give a bit of background and let members of the AAVSO know where they can obtain occultation information in the future.

For years the Occultation Committee of the AAVSO played an important role as the main organization coordinating occultation work in North America. Recently, other organizations and individuals, with the help of electronic computers, have been able to greatly improve occultation prediction services and analyses of occultation observations. For the best possible service, AAVSO members interested in occultations are now encouraged to contact those specializing in occultation work. Procedures and addresses for obtaining occultation information are given below.

Occultation predictions for 15 North American "standard" stations for stars brighter than mag. 7.5 (6.5 during waning phases), including maps showing the approximate location of graze paths, are given in the OCCULTATION SUPPLEMENT, available free from the Director, Nautical Almanac Office, U. S. Naval Observatory, Washington, DC 20390 (U.S. residents should enclose a long self-addressed envelope with postage for two ounces, now 24¢). Approximate local predictions using the data in the OCCULTATION SUPPLEMENT are available free from Nicholas M. Esposito, 735 Bryant Ave., Roslyn Harbor, NY 11576; send him the latitude and longitude of your observing site and a long self-addressed (stamped, if in the U.S.A.) envelope. Detailed accurate predictions for any location in the world, including stars down to about 9.5 magnitude, are available free from Mr. Peter Espenschied, U.S. Naval Observatory, Washington, DC 20390. Due to computer time and staff limitations, these lengthy USNO predictions are only available to those with high-speed photoelectric recording equipment or to visual observers who plan to time at least 60 occultations per year. Accurate geodetic coordinates of the observing site, obtainable by carefully measuring large-scale topographic maps, must be supplied. Reports of observations of ordinary occultations should be sent to H. M. Nautical Almanac Office, Royal Greenwich Observatory, Hesrtmonceux Castle, Hailsham, Sussex BN27 1RP, England, where reductions are computed and sent to observers for verification of the data.