LITERATURE ON ECLIPSING BINARIES

To the Editor:

Many authors have told me they had difficulty making sure they had located all significant papers pertaining to their star. It is easy to understand what the problem is. Papers on eclipsing binaries can appear in a very large number of journals, bulletins, circulars, etc. published in many different countries. No individual, and few universities, can have ready access to all of these. Let me, therefore, draw the attention of A.A.V.S.O. members to the Eclipsing Binary Card Catalogue.

If you are observing an eclipsing binary or preparing to write a paper on your findings, address a letter to

Dr. Frank Bradshaw Wood
Curator of the Card Catalogue
Department of Astronomy
University of Florida
Gainesville, Florida 32611

and ask for a copy of the file on your particular eclipsing binary. He will send it to you free of charge. I am sure, however, that he would appreciate our not taking unfair advantage of this valuable service. For example, the files on very well known systems (β Lyrae, Algol, U Cephei, etc.) are enormous, so one should ask for a copy of only the most recent one or two pages.

Once you know of a certain reference, the Science Library at a university near you can probably locate it for you, perhaps with the help of their inter-library loan program. For particularly obscure publications, I will be very happy to help you out myself.

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PHOTOELECTRIC AND VISUAL MAGNITUDES

To the Editor:

The relationship between photoelectric and visual magnitudes has been discussed in recent issues of the Journal (6, 4, 88; 7, 10, 14, 88). I have been investigating this question, principally from an empirical point of view, i.e., by directly comparing photoelectric and visual magnitudes (full details can be found in Journ. Brit. Astron. Assoc., 89, 265, and submitted).

Harvard data suggest $m_V = V + 0.12(B-V)$ (see Journal 6, 88). Comparison of Leander McCormick magnitudes with photoelectric results, both in the literature and newly measured by Jeremy Bailey and myself, gives $m_V = V + 0.18(B-V)$ for stars brighter than $13^m.5$ (see below). The formula (the weighted mean of the Harvard and McCormick results)

$$m_V = V + 0.16(B-V) \qquad (1)$$

is considered to be the optimum one for obtaining visual comparison star magnitudes from photoelectric data.

As Stanton himself suggests (Journal, 7, 14) there is probably no fundamental discrepancy between his results and Hopp's (Journal, 7, 88). I have found that McCormick magnitudes become very unreliable below about 13 1/2^m and in particular are systematically

brighter than the corresponding V magnitudes. Stanton found the same result from provisional AAVSO chart magnitudes; this is readily understood if these data were derived from calibrations based on McCormick sequences. Thus it is clear that different results can be obtained from bright stars (Hopp) and faint ones (Stanton). It should be noted that Stanton's use of a "VIS" filter is redundant; the transformation from B, V to m_v is closely linear and the Johnson colours are needed anyway to convert "VIS" magnitudes to visual ones.

I have also independently carried out calculations of the type reported by Steffey and by Stanton (Journal, 7, 10 and 14) to determine the relationship between $(V-m_v)$ and $(B-V)$, obtaining results very similar to theirs. However, as those authors point out, the variation in the relative contributions of rod and cone vision and in colour sensitivity from observer to observer and under changing conditions is difficult to estimate, which is why an empirical approach was preferred.

It cannot be emphasised too strongly that no single sequence will suit even some of the people all of the time, nor all of the people some of the time (unless all sequence stars are chosen to have the same B-V colour as the variable). It is difficult to see how much improvement can be gained over the compromise represented by equation (1).

Ian D. Howarth
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FERNALD 8-INCH SPRINGFIELD TELESCOPE

The 68th Spring Meeting of the AAVSO was held in Orlando, Florida in honor of our distinguished longtime members, Cy and Emily Fernald, and in celebration of the new home of the Fernald 8-inch Springfield Telescope, in Geneva, Florida. Our hosts were the members of the Central Florida Astronomical Society, who now own the Fernald 8-inch Springfield Telescope. The following historical information about the famous 8-inch telescope and its astronomical accomplishments is based, in part, on Cy's paper in Orlando.

We were deeply saddened by Cy's death on October 19, 1979. The Association has lost a truly outstanding member.

The first Springfield mounting for telescopes was put together in 1920 and tried at Stellefane in Springfield, Vermont. The mounting was conceived, designed, and developed by one of the geniuses of telescope makers, Russell Porter, and it was named for the Vermont community in which the work was done.

In 1933 Mr. Porter wrote "since 1920 many amateurs have chosen this type of support for their telescopes. They seem to have taken very kindly to the comfort afforded by a fixed eyepiece, with all controls and setting circles within easy reach." Amateur Telescope Making, 1933, p. 333.

The attractive characteristic of a Springfield equatorial mounting is the fact that the observer's position is fixed and comfortable. The light from a star reaches the eye via two prisms. Thus, instead of being forced to assume uncomfortable observing positions, the observer is always looking down, as if using a microscope.