

BM ERI - SR-TYPE VARIABLE STAR

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ABSTRACT. Based on 218 negatives from the Odessa plate collection, BM Eri is classified as an SRa-type star with a $565.^d5$ period; range in pv $6.^m9 - 8.^m5$; spectrum gM6; more probable minima at JD 2439042, 2440183.4, 2446475.

Key words: Stars: SRa - type: BM Eri

The variability of BM Eri was discovered by S. Gaposchkin (1946, 1953). A number of authors proved the discovery. The star was also rediscovered by C. Hoffmeister (1963) in 1959. A small number of measurements lead researchers to a conclusion, that BM Eri is an eclipsing binary with a 15320 - 20000 day period (Kholopov et al., 1987). Independently the variability of BM Eri was rediscovered by V.A. Bartolog (1987) with a minimum at 13.02.1986. A.I. Pikhun's advise led the autor to the decision to do an independent research, using the negatives from the Odessa plate collection.

The star was measured in the photovisual system pv. Visual estimates have been carried out using the method by Nuyland - Blazhko. The finding chart is shown in Fig.1. The brightness of the comparison stars was determined by linking to the photometrical standart Hyades (Kazanasma et al., 1981). The light curve is shown in Fig. 2.

The time series analysis has been carried out using the method by Deeming (1975). The period of $565.^d5$ was detected, which perfectly confirms photometrical measurements of the "Hipparcos" experiment. oreover, the star shows the period of $\sim 9000^d$, the "season of eclipses" - the most noticeable weakenings of brightness with an amplitude from $0.^m5$ to $1.^m5$, which last $\sim 6000^d$; the "season of quasiconstancy" with a small, ($\leq 0.^m4$) amplitude, which lasts for $\sim 3000^d$. This confirms results by Gaposchkin (1946) and Hoffmeister (1963).

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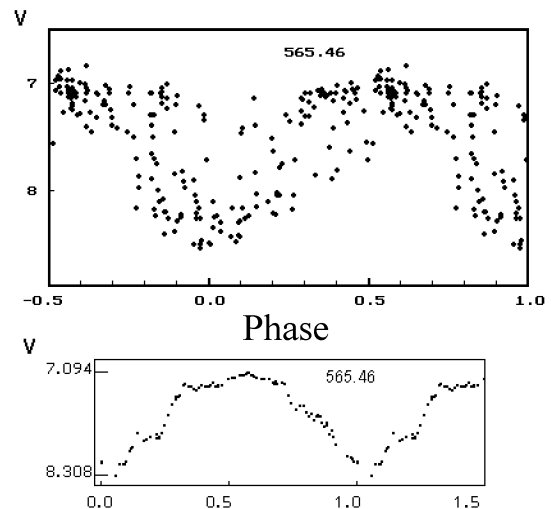
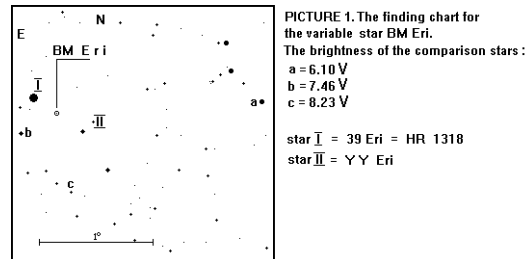


Figure 2: Phase light curve.

References

- Bartolog V.A.: 1987, *Variable Stars*, **22**, 619, 622.
Gaposchkin S.: 1946, *AJ* **52**, 43.
Hoffmeister C.: 1963, *VSS*, **6**, 1.
Kazanasma M.S., Zavershneva L.A., Tomak L.F.: 1981, *Atlas and catalogue of photoelectric standards*, Kiev, Navukova Dumka.
Kholopov P.N. (ed.): 1987, *General catalogue of variable stars*, **2**.