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HD 116994

At the beginning of 1968, the eclipsing variable BV 513 was put on our photometric observing program in B and V. Due to its proximity in the sky and its convenient color index, the star HD 116994 was chosen for comparison. Only after some five nights of observations, a preliminary reduction of the records was begun, and it was then discovered, that HD 116994 was itself variable. Another star was then chosen for comparison and observations were continued simultaneously on BV 513 and HD 116994. The observations of BV 513 against HD 116994 could still be used, at least for period study of HD 116994, once the light-curve and period of BV 513 was well established by the later observations. A total of about 1100 observations (B+V, and including those at the beginning) were obtained between February 4 and May 24. Only in mid-March it was found that the variability of HD 116994 had already been discovered in 1966 at Cerro Tololo.

HD 116994 is an intrinsic variable of very short period, $0,10225^d$, and low amplitude, about $0,18^m$, and may be classified as a dwarf cepheid.

Two peculiarities were noted in the present observations: variation of amplitude and variation of period.

The V-amplitude varied slowly between $0,16^m$ and $0,20^m$. If there is any periodicity at all, a period of about 60^d could be attributed, but some shorter period cannot be ruled out entirely. The Cerro Tololo observations show even an amplitude up to $0,22^m$; studying these, Kwan-Yu Chen finds a modulation period of $0,338^d$, but such a short modulation period could not be confirmed by the present observations.

To study period variation, an O-C diagram was constructed with $P = 0,10225^d$, including the Cerro Tololo observations. But it turned out that the variation of period (lengthening during the present observations) was such, that it is not possible to know the number of cycles between the 1966 and 1968 observations. So, any observation made between 1966 and 1968 would be of great value.

The results given above are only preliminary. The observations will be continued in 1969, as soon as possible in three or more colors. We would be very glad to receive any observation made since 1966 to improve the period and amplitude study.

Catalog data about this star are:

HD 116994 -- SAO 240869; RA = $13^h 25^m 18^s$, D = $-51^\circ 01' 58''$ (1950);
 $m_{pg} = 8,9$, $m_v = 8.7$.

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