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ON THE APPARENT NON-VARIABILITY OF ADS 9975

The variability of one component of the visual binary ADS 9975 (BD +47°2317 = HD 146327) has been suggested recently (Dommanget and van Dessel 1970). The separation of the components has always been found to be less than 0.6 seconds of arc. The Henry Draper Catalogue lists a spectral type of G0. The above authors, via a literature search, found that the Δm between the two components varied widely, and so suspected a possible variation of one of the components. They determined the absolute magnitudes to be $M_V(A) = 5.64$ and $M_V(B) = 6.64$. The color estimates that one can make, the approximate spectral types, and the apparent change in Δm of the visual double cause one to suspect a system similar to ADS 9537 (Batten and Hardie 1965), where the components of the binary are both W Ursae Majoris systems.

To test whether a W Ursae Majoris-type eclipsing binary might be one component of ADS 9975, differential photoelectric observations were undertaken at Kitt Peak National Observatory with the 16-inch and 36-inch telescopes in October, 1970 on nights only good enough for differential photometry. The nearby star HD 146450 was used as the comparison star. Nineteen observations on five nights (14 of the observations being on one night) indicate a constant difference between ADS 9975 and HD 146450 of 1.522 ± 0.008 magnitudes. During this 5 day interval, then, ADS 9975 seems to have been constant in brightness. It would seem that any variation in brightness would be of a long term nature.

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ARLO U. LANDOLT

Louisiana State University
Observatory
Baton Rouge, Louisiana 70803
USA

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