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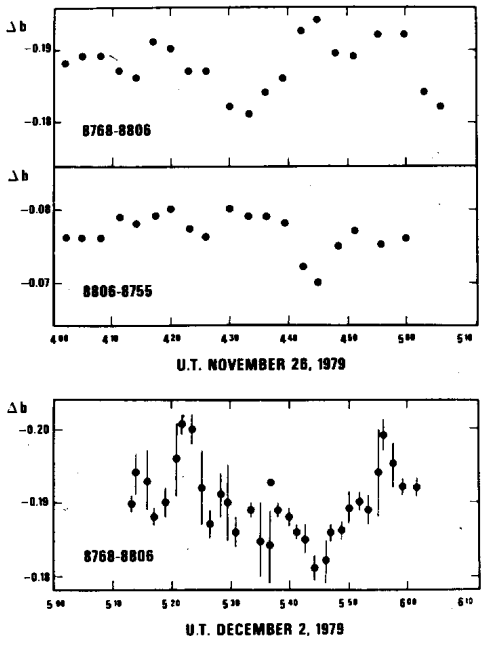
THE VARIABILITY OF HR 8768

HR 8768 (HD 217811, B2V, m_v = 6.38) is one of four members of a new class of early-type ultra-short-period variables proposed by Jakate (1979). The other three members are the southern stars HR 3467, HR 3582 and HR 5285. These stars are all B2V and B3IV stars, with periods of 30-50 minutes, and ranges of about $0^m.02$ in blue light.

Because of the small ranges of these stars, it is particularly important that their variability be confirmed by other observers. Accordingly, HR 8768 was observed on two good photometric nights with the #4 0.4 m telescope at the Kitt Peak National Observatory in Arizona, U.S.A. The telescope was equipped with a dry-ice-cooled 1P21 photomultiplier, and pulse-counting electronics. On the first night, HR 8755 and HR 8806 were used as comparison stars. On the second night, in order to improve the time resolution and accuracy, only HR 8806 was used. The magnitude differences, corrected for differential extinction, are shown in Figure 1. Approximate error bars are given for the data obtained on the second night. The average accuracy of the magnitude differences is $\pm 0^m.002$, as determined from the internal scatter and from the scatter in Δb (HR 8806 - HR 8755).

The variability of HR 8768 is only marginally apparent on the first night, but is quite apparent on the second. The period is about 35 minutes (slightly longer than Jakate's value of 28 minutes) and the range varies from $0^m.01$ on the first night to $0^m.02$ on the second. Jakate found a range of $0^m.025$; the range appears to be variable. Although Figure 1 appears to



confirm the ultra-short-period variability of HR 8768, independent confirmation of this and other members of the class would be desirable.

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Reference:

Jakate, S.M. 1979, Astron. J. 84, 1042.