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# THE VARIABILITY OF 53 Psc

The B2.5IV star 53 Psc was suspected by Williams (1954) to be variable with a period of about 0.09 days. Sareyan *et al.* (1979) found the star to be slightly variable on two nights with about the same period found by Williams. From radial velocity measurements on one night they obtain a significantly shorter period of about 0.055 days. They concluded that the star is probably a $\beta$ Cep variable. Recently, Wolf (1987) obtained photometry of this star during one night and found a large amplitude variation (0.035 magnitudes) with a period of about 0.096 days. More recently, Le Contel *et al.* (1988) could find no variation larger than 0.01 mag. from two nights in 1982 and 6 nights in 1987. This behaviour is most puzzling and the star deserves closer attention.

We report here results of intensive photometric monitoring of 53 Psc during a continuous run from 3 Sep to 30 Sep 1986. As comparison stars we used HR 26 and HR 254 which are the same two stars used by the previous observers. We obtained a total of 147 observations of 53 Psc over 17 nights through the Strömgren b filter using the 0.5-m reflector of the South African Astronomical Observatory.

Our results showed that 53 Psc and the two comparison stars were constant to better than 4 millimags during this time. We performed a periodogram analysis on 53 Psc and concluded that no significant periodic variations existed with an amplitude larger than 2 millimags. We can thus be certain that 53 Psc was constant to within this limit.

Whereas the observations of Williams (1954) could be dismissed owing to the reported poor observing conditions and those of Sareyan *et al.* (1979) could be regarded as marginal, we cannot overlook the well-defined large amplitude light curve found by Wolf (1987). Further observations of 53 Psc could prove important to our understanding of variability among early-type stars if such observations took place while the star was active. It is possible that this star is subject to episodes of transient variability as suspected for 22 Ori (Balona & Engelbrecht 1985).

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