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FURTHER RADIAL VELOCITY MEASUREMENTS OF HD 36705

In an earlier note (IBVS Number 2571) we reported that the radial velocity of the spotted late type star HD 36705 appeared to vary periodically with an amplitude of approximately 10 km s^{-1}. As Collier (1982) had identified HD 36705 as a member of the FK comae class (Bopp and Stencel, 1981), which are possibly highly evolved coalesced contact binaries, this was an interesting result. The small radial velocity variation found for HD 36705 suggested an extreme mass ratio ($q \leq 0.1$). Possibly this was a system in the last stages of coalescing.

However, new measurements obtained with the 1.0 m telescope at Siding Spring observatory in 1984 October do not reproduce the earlier variation. The 17 measurements give a mean of 29.5 km s^{-1}, with an rms spread of 5.0 km s^{-1}, in very good agreement with the measurements of Collier (1982).

We note that our earlier measurements may have been affected by distortions in the line profiles due to the spots on the star (eg Fekel, 1983). Our photometry from the two epochs shows the amplitude of the photometric wave was larger by about a factor of two during the first measurements compared with the latest.

We also note that observations of the 13th magnitude optical companion of HD 36705, Rossiter 137B, show Ca II H and K, $H\varepsilon$ and $H\alpha$ as strong narrow emission lines characteristic of a dMe star, and that 4 radial velocity measurements obtained in October 1984, and one further point in December 1984, give a mean radial velocity of $\sim$28 km s^{-1} with a small spread. This suggests that Rossiter 137B is probably physically associated with HD 36705.

We acknowledge discussion with Dr Collier concerning HD 36705. A fuller discussion of the above results will appear elsewhere.

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