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The Atmospheric Variations of the Peculiar B[e] Star HD 45677 (FS CMa)

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Abstract.

We have studied spectra of the peculiar B[e] star HD 45677. Examination of the Balmer wings enabled us to determine a value of log g= 3.9 indicating a possibly luminosity class V. The weak HeI lines together with the Si II 4128 and 4130 Å doublet indicate a low rotation velocity in the order of 70 km s⁻¹, which is much lower than the previously claimed value of 200 km s⁻¹ by Swings & Allen (1971). We have examined high-resolution profiles of the strong HeI line at 5876 Å and found on one hand that we can explain the variation of the profile by the motions of clouds, some of which accreted. The Balmer lines on the other hand show the presence of an accelerated wind plus absorption by a disk seen edge-on

References

Swings, J.P., & Allen, D.A. 1971, ApJ, 167, L41