Low-amplitude rotational modulation rather than pulsations in the CoRoT B-type supergiant HD 46769

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{We aim to detect and interpret photometric and spectroscopic variability of the bright CoRoT B-type supergiant target HD,46769 ($V=5.79$). We also attempt to detect a magnetic field in the target.} {We analyse a 23-day oversampled CoRoT light curve after detrending, as well as spectroscopic follow-up data, by using standard Fourier analysis and Phase Dispersion Minimization methods. We determine the fundamental parameters of the star, as well as its abundances from the most prominent spectral lines. We perform a Monte Carlo analysis of spectropolarimetric data to obtain an upper limit of the polar magnetic field, assumping a dipole field.} {In the CoRoT data, we detect a dominant period of 4.84,d with an amplitude of 87,ppm, and some of its (sub-)multiples. Given the shape of the phase-folded light curve and the absence of binary motion, we interpret the dominant variability in terms of rotational modulation, with a rotation period of 9.69,d. Subtraction of the rotational modulation signal does not reveal any sign of pulsations. Our results are consistent with the absence of variability in the Hipparcos light curve. The spectroscopy leads to a projected rotational velocity of 72$pm 2$,km,s^{-1} and does not reveal periodic variability nor the need to invoke macroturbulent line broadening. No signature of a magnetic field is detected in our data. A field stronger than $sim 500$,G at the poles can be excluded, unless the possible non-detected field were more complex than dipolar.} {The absence of pulsations and of macroturbulence of this evolved B-type supergiant is placed into context of instability computations and of observed variability of evolved B-type stars.}

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