

BRITE reveals tidal interaction in the doubly-magnetic B-type spectroscopic binary Epsilon Lupi (#1258)

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Epsilon Lupi is a short-period spectroscopic binary system of two main sequence early B-type stars. Shultz et al. (2015) reported the detection of magnetic fields in both stellar components, making it the only known doubly-magnetic early-type binary.

Recent BRITE-Constellation observations of Epsilon Lupi reveal a rotationally-modulated lightcurve caused by periodic tidal distortion of the components (a "Heartbeat" effect). In this presentation, we describe the observed interaction, demonstrate that it can be exploited to derive precise parameters of the binary system and stellar components, and leverage these results to better understand the peculiar magnetic properties of the system.