
Spectropolarimetric analysis of the magnetic β Cep pulsator β CMa

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Abstract

Seismic analysis of magnetic massive pulsators provide strong constraints on stellar structure. Indeed, asteroseismology grants information related to the internal properties of the star, while spectropolarimetry provides information on the stellar surface and its magnetic field. Combining this knowledge yields additional constraints on, for example, the internal mixing and magnetic field.

The BRITE constellation of nanosatellites monitors stars brighter than $V = 4$ in blue and red filters, to study the surface of stars (*e.g.* spots) and, together with asteroseismic techniques, probe the interior. However, the surface and interior of stars is also influenced by stellar magnetic fields. The BRITE spectropolarimetric survey is a complementary program to search for magnetism in all of the BRITE targets.

It is known that around 10% of the massive stars host a fossil, mainly dipolar, magnetic field. The strength of this magnetic dipole typically ranges from several hundred Gauss up to 20 kG.

We present the spectropolarimetric analysis of β CMa, a β Cep pulsator which was recently discovered to host a weak magnetic field. We base our follow-up analysis on data taken with the high-resolution spectropolarimeter Narval, at TBL.

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