

Reconstructing an accretion disk image in beta Lyrae from the BRITE-Comstellation space photometry(#1194)

Kresimir Pavlovski¹

¹Department of Physics, Faculty of Science, University of Zagreb, Zagreb, Croatia

Ever since discovery of its light variability by John Goodricke in the late 18. century, Beta Lyrae was quite a challenge for study. It is achieved that Beta Lyrae is a binary system shortly after the first rapid phase of mass transfer with the mass reversal already occurred. Mass gaining component is still completely embedded in a thick accretion disk. This model has been corroborated with the first resolved images of Beta Lyrae achieved with the CHARA array (Zhao et al. 2008). Clearly tidally distorted Roche-lobe filling star, accompanied with an elongated the disk component are resolved spatially in the interferometric images.

The photometric observations of Beta Lyrae was secured in the campaign conducted in May-October 2016 with the BRITE constellations. The continuous coverage of almost 10 orbital cycles of Beta Lyrae in the red passband was achieved. We are modelling the light curves to reconstruct an accretion disk image, and to reveal its radiative and geometric properties. The analysis is complemented with ground-based high-resolution echelle spectroscopic observations.