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RR Lyrae pulsation and evolutionary models tested against Gaia EDR3 (Invited)

Wednesday, 21 September 2022 16:10 (30 minutes)

The Gaia mission not only leads to new discoveries in nearly all disciplines in astronomy and astrophysics but also offers a unique opportunity for testing the coherence of the parameters derived for various physical systems. Furthermore, these tests help to investigate the possible systematics left in the Gaia parallaxes.

In this talk we focus on the Galactic field RR Lyrae stars that are capable of providing full (mass, effective temperature and luminosity) solution by using pulsation and evolution theories, together with stellar atmosphere models and multi-band photometry.

We find good overall agreement with the independent Gaia/EDR3 parallaxes, indicating no significant flaws on both sides.

These results will be confronted with other similar studies, including Cepheids, binary stars and HST parallaxes.

Presenter: KOVACS, G.

Session Classification: Stellar evolution and pulsation models