

The power of asteroseismology: probing stellar interiors

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The field of Asteroseismology — the study of the internal structures of stars through their global intrinsic oscillations, has been revolutionised over the past decade. This revolution was possible thanks to the high-precision high-cadence photometric data from space missions CoRoT, Kepler, K2 and TESS. These missions provided long timeseries data for hundreds of thousand stars. In many cases the brightness variations in these timeseries data reveal the intrinsic eigenmodes of the stars. These eigenmodes are defined by the internal structure of the star and hence, the stellar structure can be derived from the frequencies of the eigenmodes.

In this talk I will focus on stars cooler than ~ 6700 K, which exhibit oscillations similar to the oscillations in the Sun. I will present recent results and prospects of asteroseismic inferences of the stellar structure of these cool stars.