Modelling of solar-like oscillators: ensemble analyses and detailed inferences

Gaël Buldgen*[1]

[1]Observatoire Astronomique de lÚniversité de Genève – Switzerland

Abstract

In this review, I will discuss the various existing techniques used to carry out asteroseismic modelling of main-sequence solar-like oscillators. I will present the existing solutions to study large samples for which a limited amount of data is available, the limitations of these approaches and dive into more detailed inference techniques achievable for the best existing targets. For such detailed approaches, the choice of seismic constraints, the combination of on-the-fly computations and grid-based inferences, the non-seismic parameters as well as the effects of physics variation are of relevance to the details of accuracy and precision that can be achieved. For such rich datasets, I will cover both techniques relying evolutionary model fitting or inversion techniques based on the variational formalism and discuss perspective for future approaches.

*Speaker