

From micro- to macrophysics: the status of stellar models for solar-like stars

Friday, 22 September 2017 09:15 (30 minutes)

Recent years have seen new developments of microphysics inputs such as radiative opacities and nuclear reaction rates, as well as qualitative advancement in modeling of macroscopic processes such as radiation hydrodynamics simulations of near surface convection. Moreover, new tools such as asteroseismology open up the possibility of obtaining empirical measurements to poorly constrained physics such as (convective core overshooting) or even chemical composition (helium in particular) of low mass stars. In this talk, I will try to present a comprehensive overview of all theoretical and observational developments and how they impact the modelling of low-mass solar-like stars, focusing mainly, but not only, on the main sequence phase.

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Session Classification: Stellar models and their limitations