

Evidences of transport processes in stellar interiors

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Measurements of elemental abundances and their isotope ratios allow us to perform key tests of mixing mechanisms inside stars and provide powerful diagnostics of chemical enrichment in galaxies across cosmic time. For this purpose we need large samples of stars with precise chemical abundances over a full range of metallicities and other stellar atmospheric parameters, a full range of masses, magnetic activity, as well as of different evolutionary stages. Coupled with information on stellar ages, distances, and kinematics, the elemental abundances can provide a complete fossil record of the history of chemical enrichment for their host galaxies. However, when it comes to the determination of isotopic abundance ratios in stars, very high resolution, high signal-to-noise spectroscopic data are invariably needed, which severely limits current observational studies. In this presentation, we will discuss new possibilities which will be opened with the HRMOS spectrograph in studying abundances of mixing-sensitive chemical elements.

Type

invited talk

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