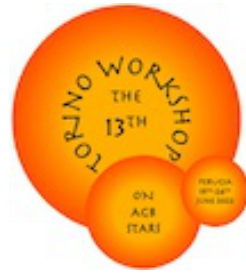


The 13th Torino Workshop on AGB stars & the 3rd Perugia Workshop on Nuclear Astrophysics



Contribution ID: 45

Type: **Oral (in presence)**

Cerium in the Kepler and TESS fields

Friday, 24 June 2022 09:50 (25 minutes)

In the era of Gaia and large spectroscopic surveys, an important missing ingredient to complete the Galactic archaeology is provided by stellar ages. A powerful method to infer precise age for field giant stars is obtained exploiting asteroseismic datasets collected by space missions such as Kepler/K2 and TESS. Thanks to these unprecedented constraints from asteroseismology, we can explore the orthogonal constraints offered by age and chemistry to infer the Milky Way formation and evolution.

In this talk, I will show the correlation of the only slow neutron capture element present in the APOGEE DR17 survey, Cerium, with the seismic ages from Kepler and TESS missions for a sample of red giant stars. I will also investigate the $[\text{Ce}/\alpha]$ ratios as chemical clocks, in order to maximise the correlation of these abundance ratios with age.

Finally, I will present the comparison between the observed age-chemical-composition trends and predictions from chemical evolution models, discussing how these novel observational constraints help us to understand the Cerium production in our Galaxy.

Session

Stellar observations (photometry and spectrometry)

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Session Classification: Galactic Chemical Evolution