Contribution ID: **24** Type: **Oral presentation**

Nucleosynthesis of the p-process isotopes, still an open problem for nuclear astrophysics

Wednesday 16 October 2024 10:20 (30 minutes)

The production of the p-process nuclei in stars is still an open problem for nuclear astrophysics. Current supernova models seem to not produce enough of them, and their high abundances in the Solar System represent a challenge for stellar nucleosynthesis. Different scenarios have been proposed to solve these issues, but more work is needed. In this context, the p-process nuclei provide an ideal diagnostic to study the nucleosynthesis in supernovae in specific parts of the ejecta, and/or to define the relative contribution from different types of supernovae to galactic chemical evolution. Since the conditions favouring the production of the p-process nuclei in stars have been identified in stellar models, it is also possible to study their production taking into account the impact of nuclear uncertainties, and disentangle them from current stellar model uncertainties. I will discuss some of the main puzzles still affecting the p-process nucleosynthesis, and its relevance within the more general context of stellar nucleosynthesis.

Length of presentation requested

Oral presentation: 25 min + 5 min questions (Review-type talk)

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Stellar Models and Galactic Chemical Evolution

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Session Classification: Morning session