## **Nuclear Physics in Astrophysics XI**



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## The contribution of massive stars to the chemical evolution of the Galaxy

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Massive stars play a crucial role in shaping the chemical composition of galaxies, enriching the interstellar medium with both light and heavy elements previously synthetized in the star through nuclear reactions. Recent advancements in stellar modelling have highlighted the beneficial effects of rotation in massive stars, enhancing the nucleosynthesis of certain elements, especially at low metallicities where stars are more compact and expected to rotate faster. Thanks to the large amount of recent and forthcoming observations, it is possible to improve Galactic chemical evolution models to reproduce the evolutionary history of the isotopic abundances measured in stars, therefore constraining the sites and production mechanisms responsible for the synthesis of the different elements.

In this talk, I will present results coming from chemical evolution models that include the nucleosynthesis from rotating massive stars, employed to explain and reproduce the evolutionary patterns of some key light and heavy elements, deriving some significative constraints on the structure and nucleosynthesis of massive stars.

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