

# The slow neutron capture process in stars

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The s process is responsible for the production of about half of the solar abundances beyond iron, and its products can be directly observed in different types of stars at different metallicities. Clear isotopic patterns enriched in s-process can be also measured in presolar grains found in meteorites, as made by the stellar conditions and nucleosynthesis of their parent stars. Thanks to this extensive source of observational data, stellar simulations and galactical chemical evolution allow to test the physics used in theoretical stellar models, and the nuclear data relevant for the s-process nucleosynthesis. In this contribution I provide an overview of the s-process nucleosynthesis in different types of stars, discussing recent results and present challenges that need to be addressed.