

量子物理学・ナノサイエンス第 455 回セミナー

Nucleosynthesis in Astrophysical Explosions and Galactic Chemical Evolution

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場所 : 本館 2 階 227B 物理学系輪講室

概 要

I will first provide a brief overview of the nucleosynthesis processes responsible for producing elements heavier than iron in the Universe, from the perspectives of astrophysics and nuclear physics. I will particularly emphasize how recent nucleosynthesis studies are closely connected to cutting-edge research topics in astrophysics and fundamental physics, including nuclear physics. Building on this background, I will present recent research on r-process nucleosynthesis in explosive astrophysical environments. Particular emphasis will be placed on nuclear physics uncertainties, alongside recent advances in astrophysical modeling. Furthermore, I will discuss several issues related to the chemical evolution of galaxies, focusing on how elements produced in astrophysical explosions are supplied to galaxies and subsequently contribute to the formation of new generations of stars and planets.

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