東北大学 宇宙創成物理学国際共同大学院プログラム



GPPU Seminar

"Early r-process enrichment in globular clusters"

by Evan Kirby (University of Notre Dame) Time and Date: 10:00-12:00, June 13th, 2024 Place: Room 745, Science Complex B H03 (hybrid)

Registration: "https://us02web.zoom.us/meeting/register/tZErfuqtqDwsG9Be-PpcP-gPtSg23mVC8N-k"

Stars in nearly all globular clusters show complex relations among the abundances of light elements (up to Na). Many also show anti-correlations of Mg and Al. Until now, only one cluster (M15) conclusively showed any star-to-star variation in neutron-capture elements, like Eu. Using a trick of stellar evolution, I show that these variations are primordial, not caused by external pollution. Then, I show that M92 also has variations in barium and lanthanide abundances (but not first-peak r-process) among the first generation of stars but not the second. The evidence points to a rare source of the "main" r-process that happened right at the start of the formation of the cluster.

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