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## Theory of the intermediate neutron capture process (i-process)

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Despite considerable progresses during the last decades, the origin of the elements heavier than iron is not yet fully understood. In addition to the slow (s) and rapid (r) neutron capture processes, an intermediate neutron capture process (i-process) is thought to exist at neutron densities intermediate between the s- and r-processes. The astrophysical site(s) hosting the i-process is (are) actively debated. In this presentation, I will review the current understanding of the i-process and focus on its development in various sites. I will emphasize the unique chemical signature of the i-process, including the production of actinides, address nuclear uncertainties, and compare model predictions with observations of chemically peculiar stars and presolar grains.

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