

"Exotic Nuclei and Astrophysics"

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Abstract:

This talk is an attempt to present some problems on the evolution of the Universe: the nucleosynthesis and cosmochronology from the standpoint of physics of particles and nuclei, in particular with the use of the latest results, obtained by means of radioactive nuclear beams. The comparison is made between the processes taking place in the Universe and the mechanisms of formation and decay of exotic nuclei, as well as of their interaction at different energies. Examples are given to show the capabilities of nuclear physics methods for studying cosmic objects and properties of the Universe. The results of investigations in nuclear reactions, induced by radioactive nuclear beams, make it possible to analyze the nucleosynthesis scenario in the region of light elements in a new manner.