

THEORETICAL ASPECTS OF SCIENCE WITH RADIOACTIVE NUCLEAR BEAMS¹

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Physics of radioactive nuclear beams is one of the main frontiers of nuclear science today. Experimentally, thanks to technological developments, we are on the verge of invading the territory of extreme N/Z ratios in an unprecedented way. Theoretically, nuclear exotica represent a formidable challenge for the nuclear many-body theories and their power to predict nuclear properties in nuclear terra incognita. It is important to remember that the lesson learned by going to the limits of the nuclear binding is also important for “normal” nuclei from the neighborhood of the beta stability valley. And, of course, radioactive nuclei are crucial astrophysically; they pave the highway along which the nuclear material is transported up in the proton and neutron numbers during the complicated synthesis process in stars.

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