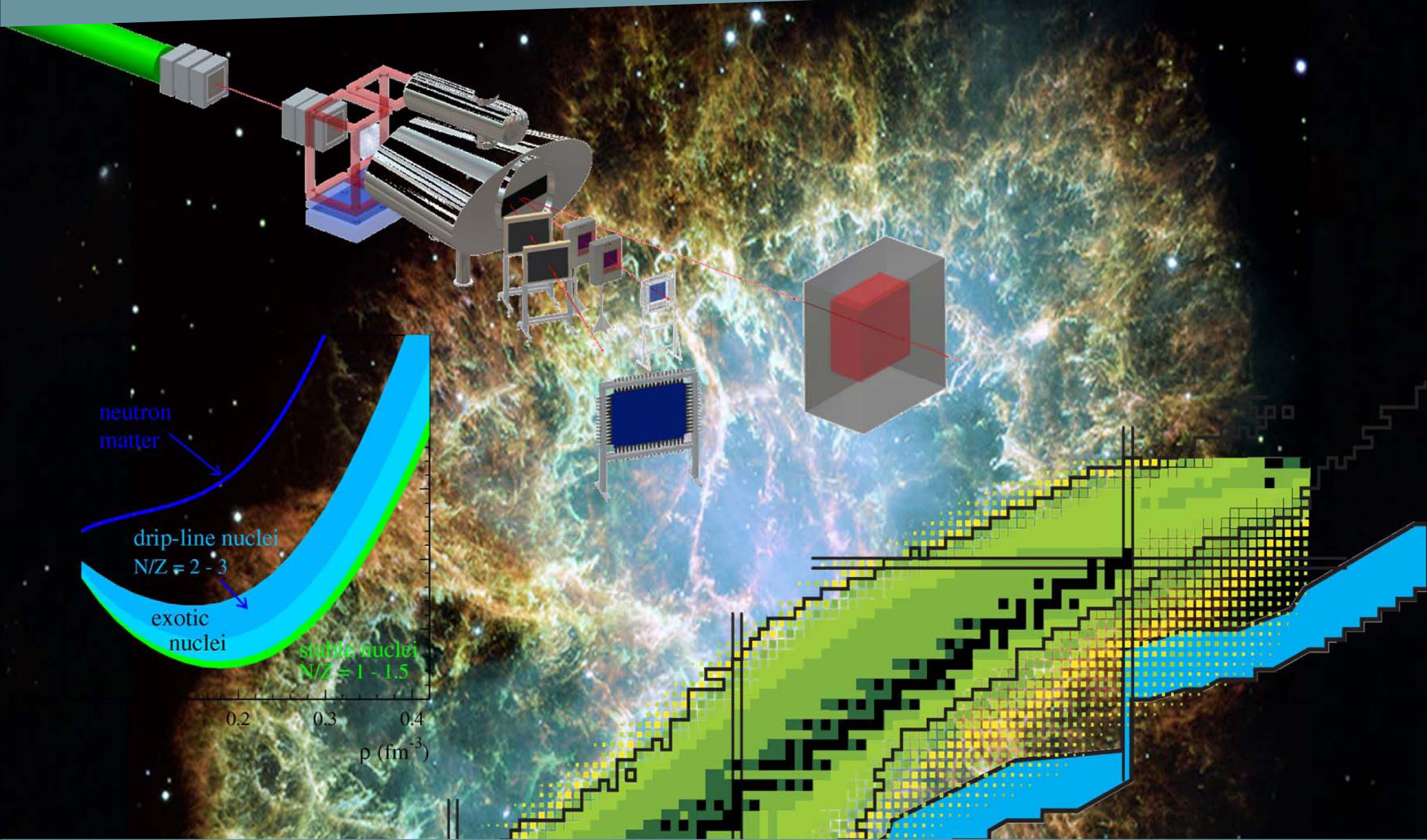


PHYSICS COLLOQUIA

2014



Experiments using high-energy radioactive beams will be discussed with a focus on the investigation of collective excitation modes in neutron-proton asymmetric nuclei. The central question to be answered is how the collective response of atomic nuclei changes when more and more neutrons are added. The appearance of new excitation modes related to the asymmetry implying different Fermi energies and density distributions of neutrons and protons is being investigated. Besides the collective properties of exotic nuclei, information on the isospin-asymmetric part of the equation-of-state of nuclear matter can be obtained, which is of utmost importance for the understanding of astrophysical environments such as neutron stars.

A brief outlook on the prospects at the future NuSTAR facility at FAIR in Darmstadt will be given, where new experimental techniques and instrumentation in combination with high-intensity neutron-rich beams will be available.

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 Collective Excitations of Exotic Neutron-Rich Nuclei



UNIVERSITÀ DEGLI STUDI DI MILANO
 DOTTORATO DI RICERCA IN FISICA
 ASTROFISICA E FISICA APPLICATA

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