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Nuclear structure from electron-ion collisions

We propose to address fundamental questions on the structure of unstable nuclei with a focus on nucleon density distributions. Densities were investigated using electron-stable target scattering and give rise to a set of data founding our knowledge of the nuclear shape in the valley of stability. Similar detailed and precise information could be obtained for exotic nuclei with an electron-Radioactive Ion (RI) collision machine. These measurements could be done at GANIL. A project proposal on the question of the charge densities of radioactive nuclei will remain pertinent in the next decades. This project would make GANIL a world competitive machine with unique observables. It would attract in situ the international e-RI community for common experimental programs. The main challenge is to have the electron machine and the instrumentation designed for the e-RI collisions. The purpose of the current proposal is to outline the objectives of the project and the work tasks to be done in the next years. Applications of an electron accelerator at GANIL are also underlined.

Auteur principal: COLLABORATION "ELECTRON-RIB FOR GANIL FUTURE"

Classification de Session: Contribution to the future of GANIL