

Results and experiences from Coulomb excitation experiments with radioactive beams at GANIL and ideas for future experiments at ISOLDE

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Shape-coexisting states in neutron-deficient krypton isotopes have been studied by low-energy multi-step Coulomb excitation of radioactive ^{74}Kr and ^{76}Kr beams at GANIL. States up to the 8^+ in the ground-state band and several non-yrast states have been populated, and their excitation probability was measured as a function of the scattering angle. A large set of both transitional and diagonal matrix elements was obtained in the analysis using the code GOSIA. The spectroscopic quadrupole moments for the first and second 2^+ states have opposite signs, confirming the scenario of coexisting prolate and oblate shapes. The results from the GANIL experiments will be discussed with a special emphasis on the experimental techniques and difficulties of reorientation measurements with low-intensity radioactive beams. Ideas for future experiments to investigate shape coexistence in neutron-rich nuclei around $N=60$ at ISOLDE using the same techniques will be presented.

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