

Coulomb excitation of fast neutron-deficient Pb beams

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The present proposal aims to exploit the unique capabilities of BigRIPS in delivering Pb beams from ^{238}U fragments at RIKEN. Coulomb excitation studies of fast radioactive beams will be extended to very neutron-deficient Pb nuclei and to excited states inaccessible with other methods. The measurements of $B(E2)$ values to the 2^+ states in the even-mass 184-188Pb nuclei in Coulomb excitation experiments are discussed. The proposed studies will be carried out with 345 AMeV primary ^{238}U beam. The Pb fragments will be separated with BigRIPS and the Coulomb excitation gamma-ray yield will be recorded with DALI2 at the F7 focal plane of BigRIPS. The proposed measurements will be unique to RIKEN and complementary to the lifetime measurements at JYFL and low-energy Coulomb excitation measurements at REX-ISOLDE providing stringent experimental constraints to the related theory development.

Summary

Possible Coulomb excitation studies of fast neutron-deficient Pb beams at BigRIPS will be discussed.

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