

Abstract Submitted
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Gamma-ray Transition Matrix Elements in ^{21}Na : First TIGRESS Radioactive Beam Experiment¹ GREG HACKMAN, TRIUMF, TIGRESS AND BAMBINO COLLABORATION, E1058 TEAM — Modern shell model calculations should be expected to reliably reproduce the properties of the deformed five-particle nucleus ^{21}Na . However the lowest-lying B(E2) value deduced from lifetime and mixing ratio measurements disagrees with models by an unacceptably large factor of two. To measure the B(E2) values directly, a beam of ^{21}Na at 1.7 MeV/u from the TRIUMF ISAC facility was directed upon a 0.5 mg/cm² ^{nat}Ti target. Gamma-ray yield in coincidence with inelastically scattered heavy ions was measured with two TIGRESS high energy- and position-resolution germanium detector units and the BAMBINO highly segmented silicon detector system. The result resolves the discrepancy between the shell model and prior measurements. This represents the first radioactive in-beam experiment with TIGRESS.

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Greg Hackman
TRIUMF

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