

Abstract Submitted  
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**Measurements of the  $g$ -factors of the  $2_1^+$  states in  $^{82}\text{Sr}$  (25.3 d) and  $^{90}\text{Sr}$  (28.8 y)<sup>1</sup>** SAMANTHA RICE, SAMUEL NAIMARK, GERFRIED KUMBARTZKI, NOEMIE BENCZER-KOLLER, Rutgers University — Magnetic moments and lifetimes of the  $2_1^+$  states in  $^{84-88}\text{Sr}$  isotopes were measured via the transient field technique and Coulomb excitation in inverse kinematics. The pending experiment will use  $^{78,86}\text{Kr}$  beams from the TAMU Cyclotron to induce  $\alpha$ -capture reactions on a  $^{12}\text{C}$  target and produce the unstable isotopes of interest,  $^{82,90}\text{Sr}$ . A new beam line, consisting of a target chamber, target cooling device, and external magnetic field, is being assembled at Rutgers. The  $^{12}\text{C}$  target was evaporated on a substrate of gadolinium backed by a copper foil. A PIPS Si detector will detect  $\alpha$ -particles exiting the target after the  $^8\text{Be}$  breakup, and  $\gamma$ -rays will be detected by four Ge clover detectors. A digital data acquisition system will record  $\alpha$ - $\gamma$  coincidences. The angular correlation of the emitted  $\gamma$ -rays with respect to the beam direction will be determined from appropriate combinations of  $\gamma$ -ray intensities observed in various elements of the clover detectors. The measurement of the precession angles of the  $2_1^+$  magnetic moments yield the experimental  $g$ -factors. The results will be compared to shell model calculations based on  $^{88}\text{Sr}$  as a core nucleus.

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