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**T=3/2 Isobaric Analog States in $^{9}$Be populated via $^{8}$Li+p resonance scattering** CURTIS HUNT, G.V. ROGACHEV, Department of Physics Astronomy and Cyclotron Institute, Texas AM University, TX 77840 USA, S ALMARAZ-CALDERON, A. APRAHAMIAN, B. BUCHER, W. TAN, Nuclear Science Laboratory, University of Notre Dame, Notre Dame, IN 46556, USA, E.D. JOHNSON, J. P. MITCHELL, M. AVILA, A. KUCHERA, L. T. BABY, Department of Physics, Florida State University, Tallahassee, FL 32306, USA — Proton resonance scattering with rare isotope beams, studied using the Thick Target and Inverse Kinematics (TTIK) approach, has been a very productive tool to study the structure of exotic, mostly proton rich nuclei and has key advantages ex. high efficiency and excellent energy resolution. Direct implementation of TTIK for the neutron rich case would require neutron resonance scattering with a radioactive beam which is not possible at present. It has been suggested by V. Goldberg 20 years ago to study neutron rich nuclei using TTIK through corresponding isobaric analog states populated in proton resonance scattering, which has been done for a few cases. The main goal of this experiment is to benchmark the application of the TTIK technique for studies of neutron rich nuclei. The A=9 T=3/2 isobaric multiplet provides an ideal opportunity. Experimental data on proton resonances in $^{9}$C and on the structure of low lying states in $^{9}$Li are available. We have populated T=3/2 states in $^{9}$Be using $^{8}$Li+p resonance scattering, performed modified R-matrix analysis and compared the results to the available data for $^{9}$C and $^{9}$Li. Applicability and challenges of TTIK for neutron rich nuclei studies will be discussed.

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