

Abstract Submitted
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Nuclear Structure and Quasi-Discrete Features populated in the $^{152,154}\text{Sm}(p,t)$ Reactions¹ P. HUMBY, C.W. BEAUSANG, A. SIMON², N. COOPER, E. WILSON, K. GELL, T. TARLOW, G. VYAS, University of Richmond, T.J. ROSS, University of Kentucky, R.O. HUGHES, J.T. BURKE, R.J. CASPERSON, J. KOGLIN, S. OTA, Lawrence Livermore National Laboratory, J.M. ALLMOND, Oak Ridge National Laboratory, M. MCCLESKEY, E. MCCLESKEY, A. SAASTAMOINEN, R. CHYZH, M. DAG, Texas A&M University — The $^{152,154}\text{Sm}(p,t)$ reactions were used to investigate large, narrow, quasi-discrete structures observed in the triton energy spectra at excitation energies of 2-3 MeV. The experiment utilized a 25 MeV proton beam from the K-150 cyclotron at the Cyclotron Institute of Texas A&M University and the outgoing charged particles and γ rays were detected using the STARLiTeR array. This consists of a highly segmented ΔE -E silicon telescope and six BGO shielded HPGe clover detectors. The angular distributions of the outgoing tritons populating the narrow structures are compared to those from both the population of low energy discrete states and the high energy continuum region. The fraction of strength in the structures accounted for by the observed discrete states and the total strength of the feature in neighboring isotopes are discussed.

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