

Abstract Submitted
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Exploring the single-particle structure of ^{11}Be with the one-neutron transfer reaction $^2\text{H}(^{10}\text{Be}, p)^{11}\text{Be}$ ¹ KYLE SCHMITT, University of Tennessee, ORRUBA/RIBENS COLLABORATION, TORUS COLLABORATION — The one-neutron transfer reaction $^2\text{H}(^{10}\text{Be}, p)^{11}\text{Be}$ was studied at equivalent deuteron energies of 12.0, 15.0, 18.0, and 21.4 MeV using batch mode beams at the HRIBF at ORNL. Elastic (d,d) and inelastic (d,d') scattering were observed simultaneously with transfer to the bound states and low-lying resonances in inverse kinematics. The energies and angles of light ions emitted from the reactions were measured in the SIDAR and ORRUBA silicon detector arrays. These data are compared with reaction calculations to extract spectroscopic factors. Comparison of analyses using DWBA and more sophisticated reaction theories will be presented as well as several new experimental tools useful for transfer reaction experiments.

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