

Abstract Submitted
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The Puzzle of the $^{13}\text{Be}^1$ JEROME MATHEW KOVOOR, MARIJA VOSTINAR, KATHERINE JONES, University of Tennessee, Knoxville, RITUPARNA KANUNGO, Saint Marys University, SEAN BURCHER, University of Tennessee, Knoxville, MATTHIAS HOLL, TRIUMF, JOSHUA HOOKER, University of Tennessee, Knoxville, STEVEN D. PAIN, Oak Ridge National Lab, ORRY WORKMAN, TRIUMF, IRIS S1506 COLLABORATION COLLABORATION — A considerable number of experiments have been performed to study the unbound nucleus ^{13}Be , however the energy and the ordering of its low-lying states remain unknown. Clarifying the low-lying structure of ^{13}Be will help in understanding the evolution of the $N=8$ shell gap and the nature of the nuclei near, or at, the neutron drip line. Additionally, the continuum structures of ^{13}Be are important for understanding the Borromean structure of the halo nucleus ^{14}Be . We performed the $^{12}\text{Be}(d,p)^{13}\text{Be}$ transfer reaction in inverse kinematics at ISAC II, TRIUMF. The ^{12}Be beam at 9.5 MeV/u interacted with the IRIS solid D_2 target, and recoils and ejectiles were detected in an annular silicon detector array. Preliminary analysis and results will be presented here.

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