Abstract Submitted
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The level structure of ^{19}Ne via measurement of the ^{2}H(^{18}F,α+^{15}O)n reaction.[1] A.S. ADEKOLA, C.R. BRUNE, Z. HEINEN, M.J. HORNISH, T.N. MASSEY, A.V. VOINOV, Ohio U., D.W. BARDAYAN, J.C. BLACKMON, C.D. NESARAJA, M.S. SMITH, Oak Ridge Nat. Lab., A. CHAE, C. DOMIZIOLI, Z. MA, B. MOAZEN, U. of Tenn., A.E. CHAMPAGNE, D.W. VISSER, UNC - Chapel Hill, U. GREIFE, R. LIVESAY, M. PORTER - PEDEN, Col. School of Mines, M. JOHNSON, Oak Ridge Assoc. U., K.L. JONES, S.D. PAIN, J.S. THOMAS, Rutgers, R.L. KOZUB, J.F. SHRINER, N.D. SMITH, Tenn. Tech. — The ^{18}F(d,n)^{19}Ne and ^{18}F(d,p)^{19}F reactions have been measured simultaneously at $E_{c.m.}$= 14.9 MeV at ORNL's HRIBF with a radioactive ^{18}F beam. The ^{19}Ne excited states near the proton threshold are potentially important for the ^{18}F(p,α) reaction rate in novae. These states decay by breakup into α+^{15}O which were detected in coincidence with position-sensitive E–ΔE telescopes. The neutron (proton) angular distributions for states in ^{19}Ne (^{19}F) were extracted using momentum conservation. Information on the spins and spectroscopic strengths of these states will be presented and ^{19}Ne – ^{19}F mirror symmetry will be discussed.

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