

Abstract Submitted
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Searching for resonances in the unbound ${}^6\text{Be}$ nucleus¹ K.Y. CHAE, U of TN, ORNL, D.W. BARDAYAN, J.C. BLACKMON, ORNL, A.E. CHAMPAGNE, U of NC, J.J. DAS, IUAC, India, R.P. FITZGERALD, U of NC, V. GUIMARAES, U of Sao Paulo, K.L. JONES, Rutgers, M.S. JOHNSON, ORAU, R.L. KOZUB, TTU, R.J. LIVESAY, CO School of Mines, Z. MA, C.D. NESARAJA, U of TN, ORNL, S.D. PAIN, Rutgers, M.S. SMITH, ORNL, J.S. THOMAS, Rutgers, D.W. VISSER, U of NC — Knowledge of the ${}^3\text{He}({}^3\text{He},2p){}^4\text{He}$ reaction is important for understanding stellar burning and solar neutrino production. Previous measurements have found a surprisingly large rise in the cross section at low energies that could be due to a low energy resonance in the ${}^3\text{He}+{}^3\text{He}$ system or electron screening. In the ${}^6\text{Be}$ nucleus, however, no excited states have been observed above the first 2^+ state at $E_x = 1.67$ MeV up to 23 MeV, even though several are expected. The $d({}^7\text{Be},t){}^6\text{Be}$ reaction has been studied for the first time to search for resonances in the ${}^6\text{Be}$ nucleus using radioactive ${}^7\text{Be}$ beam at the ORNL Holifield Radioactive Ion Beam Facility. Details of the experiment and a report of the current stage of the analysis will be presented.

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