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^{10}B(α,n)^{13}N cross section measurement[11] QIAN LIU, UND and JINA, MICHAEL FEBBRARO, ORNL, RICHARD DEBOER, MICHAEL WIESCHER, UND and JINA — The reactoin ^{10}B(α,n)^{13}N has been identified as a possible background source for underground experiments at low energy[1]. Previously the differential cross section data has only been available at energies above E_α = 1.0 MeV [2]. An improved measurement of this reaction has been performed extensively down to 0.57 MeV. It has been measured with two deuterated liquid scintillators, EJ315 and EJ301D, and with the help of unfolding technique, neutron energy information can be extracted. EJ301D is a newly-developed neutron detector, with better pulse shape discrimination [3], and has been used to do angular distribution measurements. In addition, the $(\alpha, \alpha_1\gamma)$ and $(\alpha, p_3\gamma)$ channels have been monitored independently by observation of the 718 keV γ transition in ^{10}B and 3853 keV γ transition in ^{13}C. Preliminary data analysis indicates the discovery of a new resonance in low energy region. Future measurements will be carried out at CASPAR using the same detectors.[1] D.-M.Mei, C.zhang, A.hime, NIMA **606**, 651 (2009). [2] L. [2] L. Van Der Zwan and K.W. Geiger, NPA **216**, 188 (1973). [3] F.D Becchetti *et al.* NIMA **820**, 112 (2016).

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