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Measuring ^{3}He(^{3}He,2p)^{4}He and t(t,2n)^{4}He reactions near 10 keV at inertial confinement fusion facilities[1] D.P. MCNABB, R.N. BOYD, LLNL, D.T. CASEY, J.A. FRENJE, MIT, S. HATCHETT, LLNL, C.K. LI, MIT, A. MACKINNON, LLNL, P.W. MCKENTY, P. NAVRATIL, LLNL, R.D. PETRASSO, MIT, S. QUAGLIONI, LLNL, T.C. SANGSTER, LLE, F.H. SEGUIN, MIT — Nuclear reactions at stellar energies are often obtained through extrapolations from higher energy data, or in low-background experiments such as those at the LUNA underground laboratory. However, even when measurements are possible, TN rates in burning plasmas are inherently different from those in beam-target experiments. The fusing nuclei are surrounded by bound electrons in accelerator experiments, whereas they occupy mainly continuum states in the plasma environment of a star. We will discuss plans to measure the bare-nuclear cross section and particle production spectra for the ^{3}He(^{3}He,2p)^{4}He fusion, a key reaction in the solar proton-proton chain, and the analogue T(t,2n)^{4}He reaction. Challenging issues of characterizing background proecess and plasman conditions will be discussed.

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Dennis McNabb
LLNL

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