

Abstract Submitted
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s-Process Branch Point (n,γ) Measurements using NIF* LEE BERNSTEIN, D.L. BLEUEL, C. CERJAN, LLNL, U. GREIFE, Colorado School of Mines, R.D. HOFFMAN, LLNL, L. PHAIR, LBNL, A. MCEVOY, Colorado School of Mines, K.J. MOODY, D.H.G. SCHNEIDER, D. SHAUGHNESSY, M.A. STOYER, LLNL — The National Ignition Facility (NIF) at LLNL is a laser-driven inertial confinement fusion laboratory designed to compress pellets containing small ($<10^{20}$ atoms) samples of material to densities in excess of 100 g/cm^3 and temperatures up to $k_B T \approx 10 \text{ keV}$. Early NIF shots will feature a proton-tritium (HT) fuel mix that creates a neutron spectrum similar to that found in AGB main sequence stars. In this talk I will discuss nuclear physics experiments using NIF and present a plan to measure the $^{171}\text{Tm}(n,\gamma)$ s-process branch point cross section in a NIF plasma environment which will include the plasma-induced population of the first excited state at $E_x = 5.0 \text{ keV}$. *This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract W-7405-Eng-48 and under Contract DE-AC52-07NA27344. For LBNL this work was supported by the U.S. Department of Energy under Contract No. DE-AC02-05CH11231.

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