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A versatile facility for advanced diagnostics development for OMEGA, Z and the NIF D.T. CASEY, N. SINENIAN, M. MANUEL, M. ROSENBERG, A. ZYLSTRA, H.G. RINDERKNECHT, C. WAUGH, H. SIO, M. GATU JOHNSON, J. FRENJE, C.K. LI, F.H. SEGUIN, R. PETRASSO, MIT, R. LEEPER, C.L. RUIZ, SNL, T.C. SANGSTER, LLE — The MIT Linear Electrostatic Accelerator generates D-D and D-3He fusion products for the development of nuclear diagnostics for OMEGA, Z, and the NIF. Fusion reaction rates as high as 10^7 s^{-1} are achieved with a new ion source and gas control system. The fluence and energy of the fusion products has been accurately characterized to allow for the development of new nuclear diagnostics on OMEGA, Z and the NIF. In-situ measurements of the on-target beam profile are used to determine the metrology of the fusion products source for particle counting applications. In addition, neutron diagnostics development is facilitated by detailed MCNP simulations used to correct for scattering within the system. These recent improvements have resulted in a versatile platform suitable for advanced diagnostics development. This work was supported in part by SNL, DOE, LLE and LLNL.

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