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A linear electrostatic accelerator for education and advanced diagnostics development for OMEGA and the NIF N. SINENIAN, M. GATU JOHNSON, H. SIO, C. WAUGH, D. OROZCO, J. PENNA, H. RINDERKNECHT, M. ROSENBERG, A. ZYLSTRA, J. FRENJE, C.K. LI, F. SEGUIN, R. PETRASSO, MIT, C. RUIZ, SNL, T. SANGSTER, LLE, R. LEEPER, LANL, J. KILKENNY, GA — The MIT Linear Electrostatic Accelerator generates D-D and D-3He fusion products, which are used for development of nuclear diagnostics for OMEGA and the NIF. Fusion reaction rates of about 10^6 s^{-1} are routinely achieved, and fluence and energy of the fusion products have been accurately characterized. Diagnostics developed and calibrated at this facility include CR-39 based charged-particle spectrometers, neutron detectors, and the particle Time-Of-Flight (pTOF) CVD-diamond-based bang time detector. The accelerator is also a vital tool in the education of graduate and undergraduate students at MIT. This work was supported in part by SNL, DOE, LLE and LLNL.

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