

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**A compact Charged-Particle Spectrometer for OMEGA and the NIF**<sup>1</sup> D. OROZCO, M.J. ROSENBERG, F.H. SEGUIN, M. GATU JOHNSON, H. SIO, A.B. ZYLSTRA, H.G. RINDERKNECHT, J.A. ROJAS, J.A. FRENJE, C.K. LI, R.D. PETRASSO, MIT, V. YU, GLEBOV, LLE — A very compact scattering pinhole diagnostic (SPD) has been implemented and used to measure the mean energy of charged particles produced in Inertial Confinement (ICF) experiments. This was done by measuring the spatial distribution of mono-energetic particles that passed through a small pinhole, scattered in a thin foil that was positioned about a centimeter in front of a CR-39 detector. To determine the mean energy from the spatial distribution of the scattered particles on the CR-39, an empirical relationship between the scattering angle and the incoming particle energy for a given foil was determined using simulations. Two methods for the energy determination are discussed in this presentation. The capabilities of this diagnostic are demonstrated with DD proton and D3He alpha data from the OMEGA laser. To check the fidelity of the SPD measurements, the results are contrasted to data obtained with other well-established techniques.

<sup>1</sup>This work was supported in part by NLUF, US DOE, and LLE.

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Date submitted: 24 Jul 2015

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