

Abstract Submitted  
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**Development of Compton radiography using multi-pulse high-Z backlighters**<sup>1</sup> RICCARDO TOMMASINI, S. HATCHETT, H-S. PARK, P. PATEL, B MADDOX, S. LE PAPE, B. REMINGTON, M. KEY, M. TABAK, J. KOCH, O. LANDEN, N. IZUMI, A. MACKINNON, Lawrence Livermore National Laboratory, J. SEELY, G. HOLLAND, Naval Research Laboratory, L. HUDSON, C. SZABO, National Institute of Standards and Technology — Radiography of the cold dense fuel will be a valuable diagnostic for imploding inertial confinement fusion targets at the National Ignition Facility (NIF). For x-rays with energies between 30 and 200 keV, the main opacity will be Compton scattering. We report on experiments to characterize x-ray emission from low- to high-Z planar foils irradiated by intense picosecond laser pulses. Spectra generated by a sequence of elements from Mo to Pb, with line and continuum emission up to 100 keV, have been recorded using a Charged Coupled Device (CCD) in single hit regime and a crystal spectrometer. We discuss the results and implications for the design of the experiments at the NIF.

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