

Abstract Submitted  
for the DPP13 Meeting of  
The American Physical Society

**Imaging of hard X-rays from implosions of CH shells at Omega<sup>1</sup>**

DANIEL LEMIEUX, GARY GRIM, Los Alamos National Laboratory, BRAD BARBER, University of Arizona, ROBERT ARAGONEZ, DAVID CLARK, CHRIS DANLY, Los Alamos National Laboratory — Making use of the recently designed gamma ray imaging system prototype made for the National Ignition Facility, images of hard X-rays produced in implosions of plastic shells using the Omega laser are presented. Preheating from hot-electrons produced by two-plasmon-decay is a concern for direct drive implosions as it increases the adiabat of the fuel assembly. The hot-electrons undergo bremsstrahlung scattering in the CH material, producing X-rays ranging from a few keV to a few hundred keV. These X-rays are produced in implosions of 875 micron CH shells, filled with <sup>3</sup>He, and are imaged using a 200 micron pinhole onto an LYSO scintillator system. Copper is used as a high-pass filter of the signal. A description of the gamma ray imaging diagnostic will be presented along with images of the hard X-rays.

<sup>1</sup>Prepared by LANL under Contract DE-AC-52-06-NA25396, TSPA

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Date submitted: 12 Jul 2013

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