

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Modeling Integrated High-Yield IFE Target Explosions in Xenon Filled Chambers¹ MILAD FATENEJAD, GREGORY MOSES, University of Wisconsin - Madison — We will present the results of several radiation-hydrodynamics simulations which model the aftermath of an exploding high yield (200 MJ) indirect drive target in a xenon filled reactor chamber. The goal is to determine the radial extent to which debris from the target and hohlraum expands into the target chamber. The 1D radiation-hydrodynamics code BUCKY is used to perform integrated simulations of the target explosion beginning from ignition and includes interactions between the chamber gas and tungsten first wall. The 3D radiation-hydrodynamics code Cooper will be used to model the growth of fluid instabilities as the target material expands into the xenon gas. Cooper will also be used to investigate the early-time interaction between the burning target and hohlraum shortly after ignition.

¹Work Supported By: Lawrence Livermore National Laboratory, subcontract B587835

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Date submitted: 15 Jul 2010

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