

Abstract Submitted
for the DPP17 Meeting of
The American Physical Society

3D integrated HYDRA simulations of hohlraums including fill tubes* M. M. MARINAK, J. MILOVICH, B. A. HAMMEL, A. G. MACPHEE, V. A. SMALYUK, G. D. KERBEL, S. SEPKE, M. V. PATEL, Lawrence Livermore National Laboratory — Measurements of fill tube perturbations from hydro growth radiography (HGR) experiments on the National Ignition Facility show spoke perturbations in the ablator radiating from the base of the tube.¹ These correspond to the shadow of the 10 μm diameter glass fill tube cast by hot spots at early time. We present 3D integrated HYDRA simulations of these experiments which include the fill tube. Meshing techniques are described which were employed to resolve the fill tube structure and associated perturbations in the simulations. We examine the extent to which the specific illumination geometry necessary to accommodate a backlighter in the HGR experiment contributes to the spoke pattern. Simulations presented include high resolution calculations run on the Trinity machine operated by the Alliance for Computing at Extreme Scale (ACES) partnership. 1. A. G. MacPhee, et al., Phys. Rev. E **95**, 031204(R) (2017) *This work was performed under the auspices of the Lawrence Livermore National Security, LLC, (LLNS) under Contract No. DE-AC52-07NA27344

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Date submitted: 18 Jul 2017

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