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**Simulations of Double Cone-in-Shell Implosions for an X-Ray Backlighting Source at the National Ignition Facility** STEPHEN CRAXTON, ANIRUDH SHARMA, YUJIA YANG, LLE, University of Rochester, ROBERT HEETER, YEKATERINA OPACHICH, Lawrence Livermore National Laboratory, TANA CARDENAS, HEATHER JOHNS, TED PERRY, Los Alamos National Laboratory — A double cone-in-shell plastic (CH) target has been proposed as a short-pulse x-ray source for backlighting a hohlraum-heated iron sample in an opacity platform[1] at the National Ignition Facility. The cones, aligned with the sample viewing direction, prevent x rays from probing the sample before the time of target compression. Simulations of these targets with the 2-D hydrodynamics code *SAGE*[2] have been used to optimize the beam pointings and cone parameters. The targets are imploded using beams not required to heat the sample. Careful design of the cone parameters is required to prevent hot imploded plasma from escaping through the cone tip and lengthening the x-ray pulse. Designs are evaluated using a new x-ray diagnostic code, *ORION*,[3] which calculates the x-ray output from both the double-cone targets and conventional targets without cones. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0003856.

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