

Abstract Submitted  
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**Double-Shell ignition designs and single-shell designs to study effect of perturbations** GLENN MAGELSSSEN, IAN TREGILLIS, MARK SCHMITT, JAMES COOLEY, JAS. MERCER-SMITH, Los Alamos National Laboratory — At the last APS meeting[1], a renewal of the LANL Double-Shell ignition capsule effort was presented. Using the Double-Shell design by P. Amendt et al.[2], preliminary studies of mix, symmetry and yield were presented. In this talk, fully integrated high yield designs will be presented as well as symmetry and power scan studies. The effect of small localized perturbations, such as fill tubes and mounting tents, on the NIF ignition capsule is an important issue in achieving ignition on NIF. Because of issues of symmetry, shock timing, mix etc. trying to understand the effect of localized perturbations ("defects") on the NIF capsule will be difficult. To begin the study of defects on yield, an exploding pusher has been designed. The exploding pusher is insensitive to symmetry and has a very reproducible yield. At the same time a neutron imager being designed for NIF will be tested on these targets. To achieve the neutron yield necessary, the capsules will be DT filled and directly driven. Preliminary results of the exploding pusher calculations with defects will be shown. 1. Magelssen et al., DPP APS bulletin, p. 66, (2007). 2. P. A. Amendt et al., Phys. Rev. Lett. 94, 65004 (2005).

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