

Abstract Submitted  
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**Defect Induced Mix Experiments (DIME) for NIF** MARK SCHMITT, PAUL BRADLEY, JAMES COBBLE, SCOTT HSU, NATALIA KRASHENINNIKOVA, GLENN MAGELSEN, THOMAS MURPHY, KIMBERLY OBREY, IAN TREGILLIS, FREDERICK WYSOCKI, Los Alamos National Lab — Los Alamos National Laboratory will be performing FY12 NIF experiments using polar direct drive to measure the effects of high mode number defects on ICF implosion hydrodynamics and yield. The effect of equatorial groove features will be assessed using both x-ray backlighting and spectrally resolved imaging of higher-Z dopant layers in 2.2 mm diameter (30 microns thick) CH capsules using a multiple monochromatic imager (MMI). By placing thin, 2 micron thick, layers containing  $\sim 1.5\%$  of either Ge or Se at different depths in the capsule, we will be able to characterize the mixing and heating of these layers in both perturbed and unperturbed regions of the capsule. Precursor experiments have been performed on Omega to validate these measurement methods using Ti and V layers. An overview of our current results from Omega and design efforts for NIF will be presented. Work performed by Los Alamos National Laboratory under contract DE-AC52-06NA25396 for the National Nuclear Security Administration of the U.S. Department of Energy.

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