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The Use of Symcaps for Symmetry Tuning of Ignition Capsules¹ GEORGE KYRALA, S.H. GLENZER, N.B. MEEZAN, S.V. WEBER, L.J. SUTER, N. IZUMI, D.A. CALLAHAN, M.J. EDWARDS, O.L. LANDEN, LLNL — Symmetry tuning of the ICF imploding capsule has a great impact on the performance of capsule to eventually reach ignition. We will discuss the technique of using symcap capsules to measure the symmetry. In symcaps the DT is replaced by an equivalent ablator mass, are calculated to mimic the hydrodynamic behavior of the ignition capsule, and their x-ray emission signature correlates well with an ignition capsules' core shape. Due to their low convergence, symcaps have lower sensitivity to irradiation symmetry than ignition capsules. But, they still allow, initially, tuning the symmetry of an ignition capsule, without the complications of yield or cryogenics. We will describe the initial use of symcaps in NIF hohraums to measure the sensitivity of their shape to variations in the fraction of energy in each cone of the incident laser beams, and their use to tune the symmetry of the implosion.

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