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Effect of Laser Pointing on NIF Neutron Diagnostics and Burn Symmetry[1] CHAN CHOI, Purdue University, PAUL BRADLEY, DOUGLAS WILSON, Los Alamos National Laboratory — We have been working on 2-D capsule-hohlraum implosion calculations for the NIF that utilize a laser drive pulse that peaks at 300 eV and uses less than 1 MJ of energy. We have carried out a systematic study of how changing the laser pointing changes the symmetry of the ignition capsule implosion. We performed energy-gated neutron image simulations to better understand which neutron energy bins will provide the most symmetry information for capsules that ignite or fail to ignite. We are especially interested in the symmetry of capsules that ignite, since we would like to correlate distortions in the density contours with neutron intensity contours in neutron images. This appears to be difficult, as ignition appears to remove the distinction between the hot spot and the fuel in simulated neutron images.

[1]This work performed under the auspices of the U.S. Department of Energy

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