

Abstract Submitted
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The Quartraum platform for measurement of cross-beam energy transfer on NIF¹ L.A. PICKWORTH, M.B. SCHNEIDER, D.E. HINKEL, M.D. ROSEN, F. ALBERT, D.A. CALLAHAN, P.A. MICHEL, A.E. PAK, E.A. WILLIAMS, J.D. MOODY, S.S. WU, L.R. BENEDETTI, Lawrence Livermore Natl Lab, A. MOORE, AWE — NIF routinely utilizes cross-beam energy transfer (CBET) to control the symmetry of the ICF capsule implosion. In the ignition hohlraum, CBET occurs in the laser entrance hole region, transferring power from the outer to the inner beams. The amount of transfer is controlled by the $\Delta\lambda$ between the beam cones and is proportional to laser intensity and n_e/T_e . It is most significant at peak power and during the picket of the pulse. Models indicate that energy transfer is not uniform across the beams spots, producing a non-uniform profile in the inner beam, which would introduce a spatio-temporal asymmetry in the drive applied to the ICF capsule. The platform is designed to validate beam intensity variations after CBET in the picket of the laser pulse by observation of the beam x-ray “foot print” on a high-Z witness plate using a gated x-ray imaging camera. Results from the first experiments will be discussed.

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