

Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Three-dimensional measurements of early-time symmetry in gas-filled hohlraums with the reemission ball technique G.R. MAGELSSSEN, N.D. DELAMATER, Los Alamos National Laboratory, J.J. MACFARLANE, Prism Computational Sciences, O.L. LANDEN, Lawrence Livermore National Laboratory — The reemission ball technique has been used in the past to measure early time capsule symmetry for experiments done on NOVA.[1-2] Livermore scientists are now pursuing this concept to study early time symmetry on NIF.[3] Here we review some unpublished results using this method.[4] The results include reemission measurements in methane-filled hohlraums irradiated by lasers with kinoform phase plates. They also include three- dimensional measurements of asymmetries due to beam power imbalance and from diagnostic holes. Comparisons between experimental data and calculations will be shown. New results will also be presented. Reemission measurements made within spherical hohlraums will be shown. Finally, a method used to increase the time of the reemit measurement will be discussed and experimental results given. 1. G. R. Magelssen et al., Phys. Rev. E 57, pg. 4663 (1998). 2. N. D. Delamater et al., Phys. Rev. E 53, 5240 (1996). 3. Don Meeker, J. Edwards, private communication, LLNL. 4. G. R. Magelssen et al., Abstract 1998 APS meeting; G. R. Magelssen et al., “Three-Dimensional measurements of early time radiation asymmetry in methane-filled hohlraums,” LA-UR-07-3742.

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Date submitted: 12 Jul 2007

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