Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Beam-Pointing Designs for Exploding-Pusher Proton and X-Ray Backlighting Targets at the National Ignition Facility R.S. CRAXTON, Y.Z. KONG, E.M. GARCIA, P.Y. HUANG, J.P. KINNEY, P.W. MCKENTY, R. ZHANG, Laboratory for Laser Energetics, U. of Rochester, S. LE PAPE, F. COPPARI, R.F. HEETER, D.A. LIEDAHL, B.J. MACGOWAN, J.R. RYGG, M.B. SCHNEIDER, LLNL, C.K. LI, PSFC, MIT, T.S. PERRY, LANL — The 2-D hydrodynamics code *SAGE*,[1] which includes 3-D laser ray tracing, has been used to design laser pointing configurations for thin-shell, exploding-pusher targets at the National Ignition Facility (NIF) being considered as point sources of protons and continuum x rays. Since it is desired to irradiate these targets using limited numbers of beams, uniformity is maximized by individually pointing the different beams in each quad. An important design constraint is to minimize the laser blow-by into opposing beam ports. Designs have been developed for a variety of planned experiments. A six-quad design was used for the first proton backlighter development shot on the NIF. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

[1]R. S. Craxton and R. L. McCrory, J. Appl. Phys. **56**, 108 (1984).

R.S. Craxton
Laboratory for Laser Energetics, U. of Rochester

Date submitted: 21 Jul 2015 Electronic form version 1.4