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Pushered single shell capsule design for the study of high Z mix on the National Ignition Facility RYAN SACKS, KEVIN BAKER, DANIEL CASEY, EDWARD DEWALD, FRANK GRAZIANI, STEPHAN MACLAREN, ABASS NIKROO, JESSE PINO, JOSEPH RALPH, BRUCE REMINGTON, JAY SALMONSON, VLADIMIR SMALYUK, ROBERT TIPTON, Lawrence Livermore National Laboratory — Alternative ignition scenarios on the NIF such as double shells [1,2] require an understanding of the mix between high-Z capsule shell and DT gas. By utilizing the two-shock platform, which has been shown to be a robust, symmetric, and near 1-D implosion [3], a new design is developed to explore high Z mix. Through the addition of a Ge doped pusher layer on the inner surface of the capsule, mixing of non-fully ionized material can be measured using x-ray emission, nuclear yield diagnostics developed during the CD mix experiments [4], and characterization of the central core. Using the two-shock design allows for the results to be separated from possible implosion asymmetries, allowing differences in performance between capsules with and without Ge to be attributed to high Z material mixing. This work was performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under contract DE-AC52-07NA27344, Lawrence Livermore National Security, LLC. IM number LLNL-ABS-697758. [1] P.A. Amendt, J.D. Colvin *et al.,* Phys. Plasmas **9**, 2221 (2002) [2] H.F. Robey, P.A. Amendt *et al.,* Phys. Rev. Lett. **103**, 145003 (2009) [3] S.F. Khan, S.A. MacLaren *et al.*, Phys. Plasmas **23**, 042708 (2016) [4] D.T. Casey, V.A. Smalyuk *et al.*, Phys. Plasmas **21**, 092705 (2014)

Ryan Sacks
Lawrence Livermore National Laboratory

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