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Hybrid strategy for increasing fusion performance and stagnation pressure in x-ray driven inertially confined fusion implosions on the NIF¹ O.A. HURRICANE, D.A. CALLAHAN, M.J. EDWARDS, D. CASEY, T. DOEPP-NER, M. HOHENBERGER, D. HINKEL, L. BERZAK HOPKINS, S. LE PAPE, S. MACLAREN, L. MASSE, C. THOMAS, LLNL, A. ZYLSTRA, LANL — Post NIC (2012), more stable and lower convergence implosions were developed and used as part of a 'basecamp' strategy to identify obstacles to further performance. From 2013-2015 by probing away from a conservative working implosion *in-steps* towards conditions of higher velocity and compression, 'Fuel Gain' and alpha-heating were obtained. In the process, performance cliffs unrelated to 'mix' were identified the most impactful of which were symmetry control of the implosion and hydro seeded by engineering features. From 2015-2017 we focused on mitigating poor symmetry control and engineering improvements on fill-tubes and capsule mounting techniques. The results were more efficient implosions that can obtain the same performance levels as the earlier implosions, but with less laser energy. Presently, the best of these implosions is poised to step into a burning plasma state. Here, we describe the next step in our strategy that involves using the data we've acquired across parameter space to make a step to the largest symmetric implosions that can be fielded on NIF with the energy available. We describe the key principles that form the foundation of this approach.

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