

Abstract Submitted  
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**Measurements of gas/shell mix in implosions at the National Ignition Facility using the CD Symcap platform<sup>1</sup>** DANIEL CASEY, VLADIMIR SMALYUK, ROBERT TIPTON, JESSE PINO, Lawrence Livermore National Laboratory, GARY GRIM, Los Alamos National Laboratory, BRUCE REMINGTON, DANA ROWLEY, STEVE WEBER, Lawrence Livermore National Laboratory — Surrogate implosions play an important role at the National Ignition Facility (NIF) for isolating aspects of the complex physics associated with fully integrated ignition experiments. The newly developed CD Symcap platform has been designed to study gas/shell mix in indirectly driven, pure T-gas filled CH-shell implosions, with 4- $\mu\text{m}$  thick CD layers. This configuration provides a direct nuclear signature of mix as the DT yield (above a characterized D contamination background) is produced by D from the CD layer in the shell, mixing into the T-gas core. The CD layer can be placed at different locations within the CH shell to probe the depth and extent of mix. In addition, time-gated x-ray images show large brightly-radiating objects traversing through the hotspot around bang-time, which are likely observations of chunks of CH/CD plastic.

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