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Simultaneous measurements of the D3He-p and DD-n burn history for studies of species separation in shock-driven implosions at OMEGA H. SIO, M. ROSENBERG, A. ZYLSTRA, F. SEGUIN, H. RINDERKNECHT, J. FRENJE, M. GATU JOHNSON, C.K. LI, R. PETRASSO, MIT, C. BELLEI, P. AMENDT, S. WILKS, LLNL, C. STOECKL, V. GLEBOV, J. DELETTREZ, R. BETTI, D. MEYERHOFER, T. SANGSTER, LLE, N. HOFFMAN, G. KAGAN, K. MOLVIG, LANL — Simultaneous measurements of the D3He-p and DD-n burn histories have been conducted for studies of species separation in D3He shock-driven implosions at OMEGA. This measurement was facilitated by the recent upgrade to the Particles Temporal Diagnostic (PTD), which significantly improved the dynamic range and reduced the timing uncertainty. The measured difference between the D3He-p and DD-n bang time is contrasted to single- and multi-fluid 1-D hydro simulations and Particle-In-Cell (PIC) simulations. This work was supported in part by the U.S.LLNL, LLE, and DOE NNSA SSGF.

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