

Abstract Submitted
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Field Reversed Configuration (FRC) formation and compression using liners J.H. DEGNAN, P. ADAMSON, D.J. AMDAHL, R. DELANEY, M. DOMONKOS, F.M. LEHR, E.L. RUDEN, W. TUCKER, W. WHITE, Air Force Research Laboratory, Directed Energy Directorate, Kirtland AFB, NM 87117, USA, C. GRABOWSKI, D. GALE, M. KOSTORA, J. PARKER, W. SOMMARS, SAIC, Albuquerque, NM USA, M.H. FRESE, S.D. FRESE, J.F. CAMACHO, S.K. COFFEY, V. MAKHIN, NumerEx LLC, Albuquerque, NM USA, T.F. INTRATOR, G.A. WURDEN, P.J. TURCHI, Los Alamos National Laboratory, Los Alamos, NM USA, R.E. SIEMON, University of Nevada Reno, Reno, NV USA, A.G. LYNN, N.F. RODERICK, University of New Mexico, Albuquerque, NM USA — FRC capture, field and compression experiments all use 2 T guide and mirror fields established inside the liner. A 12 MA, 4.5 MJ discharge drive the liner implosion. The capture experiments use 3 capacitor discharges into a segmented theta coil surrounding the formation region to form a bias field, pre-ionize the deuterium gas, and provide the reverse field theta discharge which forms the FRC. Two cusp field discharges aid this. The guide and mirror fields enable translation and capture of the FRC. Diagnostics include field exclusion, interferometry, radiography, and radiation detection. Design and parameters are guided by MHD simulations. Supported by DOE-OFES.

J.H. Degnan
Air Force Research Laboratory, Directed Energy Directorate,
Kirtland AFB, NM 87117, USA

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