

Abstract Submitted
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FRC Adiabatic Compression Heating Experiments J.H. DEGNAN, M.H. FRESE, D.J. AMDAHL, M. BABINEAU, J.F. CAMACHO, S.K. COFFEY, M. DOMONKOS, S.D. FRESE, D. GALE, C. GRABOWSKI, J.V. PARKER, D. RALPH, E.L. RUDEN, W. SOMMARS, Air Force Research Laboratory, Directed Energy Directorate, T.P. INTRATOR, G.A. WURDEN, P. SIECK, P.J. TURCHI, W.J. WAGANAAR, Los Alamos National Laboratory, R.E. SIEMON, T.J. AWE, B.S. BAUER, A. OXNER, University of Nevada Reno, A.G. LYNN, N.F. RODERICK, University of New Mexico — AFRL and LANL are developing Magnetized Target Fusion (MTF). This will use the Shiva Star capacitor bank at AFRL to implode an Al solid liner containing the target plasma to raise density and temperature. The Field Reversed Configuration (FRC) has been chosen for the target because of its stability, translatability, and divertor-like field configuration. The FRX-L experiments at LANL explore FRC formation and translation into the liner. 2D-MHD calculations with MACH2 look at translation, capturing and compressing the FRC. Extended MHD examines FRC rotation. The aforementioned guide the design of the experiment at AFRL, which called FRCHX. Formation and translation tests at AFRL are underway before the first compression heating experiment. Supported by DOE-OFES.

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