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Solid liner on plasma Magnetized Target Fusion physics demonstration[1] T.P. INTRATOR, Los Alamos National Laboratory, G.A. WURDEN, P.E. SIECK, W. WAGANAAR, M. KOSTORA, J. DEGNAN, AFRL - Kirtland, E.L. RUDEN, C. GRABOWSKI, SAIC Albuquerque, M. DOMONKOS, W. SOMMARS, M. FRESE, Numerex, R.E. SIEMON, Univ. Nevada - Reno, T. AWE, A.G. LYNN, Univ. New Mexico, M. GILMORE — We summarize a Magnetized Target Fusion (MTF) effort, whose primary goal is the first integrated solid liner on plasma physics demonstration at Air Force Research Laboratory (AFRL) in 2008. The compression experiment at AFRL uses an aluminum, flux conserving shell, and a physics experiment at LANL defines the experimental design and diagnostic capabilities. The initial target plasma parameters are 400eV temperature, 3e22m^{-3} density, and lifetime of 10 micro sec. Deformable contact vacuum liner experiments at the AFRL Shiva Star facility have demonstrated a shell kinetic energy of 1.5MJoule which stretches to maintain contact with the electrodes while the body of the liner glides radially inward to implode uniformly. The LANL FRXL experiment has a physics oriented front end with slotted liner, radial access for probes, optical diagnostics, and magnetics.

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