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Magnetized Target Fusion using a Field Reversed Configuration at Los Alamos[1] THOMAS INTRATOR, Los Alamos National Laboratory, SHOUYIN ZHANG, GLEN WURDEN, WILLIAM WAGANAAR, RICHARD RENNEKE, IVO FURNO, MARK KOSTORA, LEONID DORF, SCOTT HSU, ADAM LIGHT, DREW REESE, CHARLES BEER, Los Alamos National Laboratory, ALAN LYNN, MARK GILMORE, Univ New Mexico, Albuquerque, RICHARD SIEMON, Univ Nevada, Reno, JAMES DEGNAN, EDWARD RUDEN, THEODORE GRABOWSKI, Kirtland-Air Force Research Laboratory, RONALD MILLER, Decysive Systems — We present an overview of the Magnetized Target Fusion (MTF) project at Los Alamos National Laboratory. MTF could be a low cost path to fusion, in a regime that is intermediate between magnetic and inertial fusion energy. It requires compression of a magnetized target plasma and consequent heating to fusion relevant conditions inside a converging flux conserver. We hope to demonstrate the physics basis for MTF by translating a Field Reversed Configuration (FRC) target plasma into a compression region. FRX-L is a FRC that has shown substantial recent progress towards high pressure and density ($> 20 - 30$ atmospheres, $5 \times 10^{22} m^{-3}$). Part of our FRC physics investigations of the collisional FRX-L include VUV spectroscopy diagnostics to measure plasma flow. Substantial progress towards implementation of the integrated liner compressed plasma experiment at AFRL include test implosions of a deformable liner, and a second generation engineering design.

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