Abstract Submitted
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Overview and recent progress of the Magnetized Shock Experiment (MSX)[1] T.E. WEBER, T.P. INTRATOR, LANL, R.J. SMITH, U. Washington, T.M. HUTCHINSON, LANL, J.C. BOGUSKI, U. Wisconsin, J.A. SEARS, LLNL, H.O. SWAN, Cornell, K.W. GAO, LANL, L.J. CHAPDELAINE, U. Illinois, D. WINSKE, J.P. DUNN, LANL — The Magnetized Shock Experiment (MSX) has been constructed to study the physics of super-Alfvènic, supercritical, magnetized shocks. Exhibiting transitional length and time scales much smaller than can be produced through collisional processes, these shocks are observed to create non-thermal distributions, amplify magnetic fields, and accelerate particles to relativistic velocities. Shocks are produced through the acceleration and subsequent stagnation of Field Reversed Configuration (FRC) plasmoids against a high-flux magnetic mirror with a conducting boundary or a plasma target with embedded field. Adjustable shock velocity, density, and magnetic geometry (B parallel, perpendicular, or oblique to k) provide unique access to a wide range of dimensionless parameters relevant to astrophysical shocks. Information regarding the experimental configuration, diagnostics suite, recent simulations, experimental results, and physics goals will be presented.

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