

Abstract Submitted
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Multi-Fluid Simulations of Field Reversed Configuration Formation¹ EDER SOUSA, ERC Inc, AFRL, ROBERT MARTIN, AFRL — The use of field reversed configuration (FRC) have been studied extensively for fusion application but here we investigate them for propulsion purposes. FRCs have the potential to produce highly variable thrust and specific impulse using different gases as propellant. Aspects of the FRC formation physics, using a rotating magnetic field (RMF) at low power, are simulated using a multi-fluid plasma model. Results are compared with experimental observations with emphasis in the development of instabilities and robustness of the field reversal. The use of collisional radiative models are used to help compare experiment versus simulation results. Distribution A: Approved for public release; distribution unlimited; Clearance No. 17445.

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