

Abstract Submitted
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NIMROD validation using 3-axis probe data from the TCSU experiment RICHARD MILROY, PSI-Center, University of Washington, KATHERINE VELAS, University of Washington — Recent analysis the data from a 3-axis translatable magnetic probe on the TCSU experiment has revealed new details of the magnetic structure of rotating magnetic field (RMF) sustained FRCs. This data was acquired from TCSU just prior to its shutdown in 2011. This analysis which reveals the 3D structure of the magnetic field shows the field lines are opened and relatively short with even-parity current drive, but can be much longer with odd-parity current drive. A torque analysis has revealed new details about the flow of magnetic torque due to both the RMF field and the steady component of the field. This detailed magnetic data provides a good platform for the validation of numerical simulations, and will be compared with predictions from the NIMROD code, which has been adapted to simulate the formation and sustainment of FRCs using Rotating Magnetic Fields (RMF) [R.D. Milroy, C.C. Kim and C.R. Sovinec, Phys. Plasmas, **17**, 062502 (2010)].

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