

Abstract Submitted
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Magnetic reconnection of two FRCs driven by rotating magnetic field¹ TIAN-SEN HUANG, YURI PETROV, XIAOKANG YANG, Prairie View A&M University — In order to study the magnetic reconnection of RMF-driven FRCs, a new device is built at Prairie View Plasma Physics Lab. The main feature of this device is one magnetic coil being added in the middle plane of a long cylindrical chamber. The magnetic field of the additional coil is applied to sever the FRC driven by rotating magnetic field into two FRCs. When that magnetic field is removed, magnetic reconnection occurs as the two FRCs merge into one. The advantage of this magnetic reconnection experiment is the enhanced stability of RMF driven FRCs in comparison with that created by pinch. The device uses our existing 2×400 kW rf power system, and the reconnection experiment is conducted in the condition without a toroidal magnetic field.

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