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Recent results on the TCS-Upgrade device J.A. GROSSNICKLE, R.D. BROOKS, C.L. DEARDS, A.L. HOFFMAN, K.Y. LEE, P.A. MELNIK, K.E. MILLER, R.D. MILROY, K.M. VELAS, G.C. VLASES, University of Washington — The Translation, Confinement, and Sustainment Upgrade (TCSU) device is a facility to form and sustain field-reversed configurations (FRC) in quasi-steady state using rotating magnetic fields (RMF). Results from operation with internal flux rings and an additional Ti gettering campaign are reported. Several new diagnostics have been installed including a 90-channel three-axis (30 radial positions) internal magnetic field probe, a multi-point Thomson scattering system, and a Langmuir probe. A broad range of RMF frequencies, from 85 kHz – 240 kHz, and field configurations have been investigated with a full diagnostic set and results will be reported. Results from operation with odd-parity RMF antennas, which should close field lines, [S.A. Cohen and R.D. Milroy, Physics of Plasmas **7**, 2539, (2000)] will also be reported.

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