

Abstract Submitted
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RF Current Drive and Heating Experiments on MST M.A. THOMAS, J.K. ANDERSON, D.R. BURKE, C.B. FOREST, J.A. GOETZ, E.R. HENDRIES, M.C. KAUFMAN, A.H. SELTZMAN, University of Wisconsin - Madison, S.J. DIEM, ORNL, R.W. HARVEY, CompX — Two rf schemes are being studied on the MST reversed field pinch for possible use in current profile control experiments. MHD modeling has shown that externally driven off-axis parallel current can improve stability of the dominant core tearing modes. Coupling experiments at the 100 kW level with lower hybrid (LH) and electron Bernstein waves (EBW) both show soft x-ray emission consistent with rf heating of electrons, and a small driven current in the LH case. Computational work in both cases suggests that, for sufficiently low energetic electron diffusivity, between 2 and 5 MW should drive enough current for mode stabilization. A 1 MW EBW system is under construction, with a compact antenna allowing variable polarization. A decision on higher power LH development will follow tests of a repaired antenna. Status and results of power and coupling tests will be presented.

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