

Abstract Submitted
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Lower Hybrid Experiments on MST¹ M.C. KAUFMAN, J.A. GOETZ, D.R. BURKE, University of Wisconsin-Madison — Current drive using rf waves has been proposed as a means to reduce the tearing fluctuations responsible for anomalous energy transport in the RFP. A traveling wave antenna that operates at 800 MHz and $n_{\parallel} \approx 7.5$ is being used to launch lower hybrid waves into MST to assess the feasibility of this approach. A third generation antenna with a power handling capability of 300 kW has been installed. Studies at 80 kW are used to compare antenna/plasma coupling to that of the previous antenna. Routine operation at this lower input power exhibits good coupling in a variety of standard-confinement plasma conditions. Power-sensing diagnostics on the antenna will allow measurement of the power damping length, important for controlling the launched wave spectrum. Upgraded electronics allow phase information to be gathered providing a direct measurement of the wave spectrum. Langmuir probes have been installed on the antenna as previous studies have shown that edge density is a major factor in coupling. A two-tip rf probe is under development with the aim of verifying wave propagation and comparing with modeling results.

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