

Abstract Submitted
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MST Lower Hybrid Current Drive Program¹ J.A. GOETZ, D.R. BURKE, M.M. CLARK, M.C. KAUFMAN, J.G. KULPIN, S.P. OLIVA, University of Wisconsin - Madison — Interdigital line antennas are being used to test the feasibility of lower hybrid current drive in the MST reversed field pinch. The goal for the LHCD program on MST is fluctuation suppression by edge current drive. To move the program forward with a modular design, an antenna capable of launching 300 kW has been constructed and installed in MST. The antenna, designed using CST Microwave StudioTM, uses $\lambda/4$ resonators and launches slow waves at 800 MHz with $n_{\parallel} \sim 7.5$. Routine operation has been achieved and is only limited by the available transmitter power of 80 kW. A good impedance match between the antenna and the plasma is maintained over a wide range of plasma conditions. Rf instrumentation on all the antenna resonators allows for more detailed power deposition measurements. To complete the system, the pulse-forming network that drives the klystron is being upgraded to allow for a 50 kV / 16 A / 30 ms pulse. This power supply will allow the klystron to be pulsed to 300 kW. In addition to this work, filament and transmission line protection systems are being put in place.

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John Goetz
University of Wisconsin - Madison

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