Abstract Submitted
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Initial Operation of the Second ECRH System on the HSX Stellarator[1] G.M. WEIR, K.M. LIKIN, F.S.B. ANDERSON, D.T. ANDERSON, J.W. RADDER, J.N. TALMADGE, HSX Plasma Lab, University of Wisconsin — A second 200 kW / 28 GHz ECRH system has been installed and tested on the HSX stellarator. The Varian gyrotron VGA-8050M has a multimode output that is dominated by the TE02 mode. The gyrotron was tuned to produce a TEM00 mode with Gaussian distribution at the output of the Vlasov mode converter. The beam pattern and transmission line alignment were measured by observing the temperature increase of a target plate at several locations along the beam line with an infrared camera. Power measurements were made at the input and output of the transmission line, and pulsed power experiments into a target plasma show an increase in stored energy commensurate with previous high power experiments using only a single source. The antenna has a steerable focusing mirror within the HSX vessel that allows power deposition studies, specifically the effect of power deposition on ITB formation in the stellarator. This source can also be modulated for heat pulse propagation experiments.

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Gavin Weir
HSX Plasma Lab, University of Wisconsin

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