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Dynamic Tests of Transport Models With a Modulated Heat Source¹ J.C. DEBOO, C.M. GREENFIELD, Y.R. LINLIU, T.C. LUCE, D.P. SCHISSEL, R.E. WALTZ, General Atomics, E. FREDRICKSON, Princeton Plasma Physics Laboratory, J.E. KINSEY, Oak Ridge Associated Universities, C. BRAVENEC, University of Texas, G.R. MCKEE, University of Wisconsin, H. YUH, Massachusetts Institute of Technology — Simulations have shown that experiments aimed at testing the dynamic response of a plasma to a modulated heat source can provide a more sensitive test of transport models than can a power balance analysis. 1 MW of ECH power modulated at 25 Hz was applied to MHD quiescent, sawtooth-free plasmas limited on the inside wall of the DIII-D vacuum vessel. Discharges with ECH resonant layers at $\rho_{ECH} = 0.28, 0.4,$ and 0.5 were studied. The predicted phase of δT_e and δT_i proved to be the most sensitive test for differentiating between the transport models studied. The GLF23 model was most successful in predicting both the electron and ion behavior for the $\rho_{ECH} = 0.28$ case while the IFS/PPPL model did well for the ions but not electrons and vice versa for the IIF model.

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- Prefer Oral Session
 Prefer Poster Session

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Special instructions: DIII-D Oral Session I, immediately following Lohr

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