

Abstract Submitted
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Recent Advances in Simulation of Wave Interactions with Extended MHD Phenomena¹ DONALD BATCHELOR, ORNL, SWIM TEAM — The Integrated Plasma Simulator (IPS), developed by the Simulation of Wave interactions with MHD (SWIM), project provides a framework within which some of the most advanced, massively-parallel fusion modeling codes can be interoperated to provide a detailed picture of the multi-physics processes involved in fusion experiments. The presentation will cover four topics: 1) recent improvements to the IPS, 2) application of the IPS for very high resolution simulations of ITER scenarios, 3) studies of resistive and ideal MHD stability in tokamak discharges using IPS facilities, and 4) the application of RF power in the electron cyclotron range of frequencies to control slowly growing MHD modes in tokamaks and initial evaluations of optimized location for RF power deposition.

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Donald Batchelor
Oak Ridge National Laboratory

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