

Abstract Submitted
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3D MHD Simulations of Tokamak Disruptions SIMON WOODRUFF, JAMES STUBER, Woodruff Scientific Inc — Two disruption scenarios are modeled numerically by use of the CORSICA 2D equilibrium and NIMROD 3D MHD codes. The work follows the simulations of pressure-driven modes in DIII-D [1] and VDEs in ITER [2]. The aim of the work is to provide starting points for simulation of tokamak disruption mitigation techniques currently in the CDR phase for ITER. Pressure-driven instability growth rates previously observed in simulations of DIII-D are verified; Halo and Hiro currents produced during vertical displacements are observed in simulations of ITER with implementation of resistive walls in NIMROD. We discuss plans to exercise new code capabilities and validation.

[1] S.E. Kruger et al Plasma Physics of Plasmas, 12, 056113 (2005)

[2] R. Paccagnella et al Nucl. Fusion 49 035003 (2009)

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