

Abstract Submitted  
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**Simulations of Validation Platform Experiments by the PSI-Center** B.A. NELSON, C. AKCAY, A.H. GLASSER, C.J. HANSEN, T.R. JARBOE, C.C. KIM, G.J. MARKLIN, R.D. MILROY, U. SHUMLAK, University of Washington, C.R. SOVINEC, J.B. O'BRYAN, University of Wisconsin-Madison, E. HELD, J.-Y. JI, Utah State University, V.S. LUKIN, Naval Research Laboratory — The Plasma Science and Innovation Center (PSI-Center - <http://www.psicenter.org>) assists collaborating validation platform experiments with extended MHD simulations. Collaborators include the Bellan Plasma Group (Caltech), CTH (Auburn U), FRX-L (Los Alamos National Laboratory), HIT-SI (U Wash - UW), LDX (M.I.T.), MST & Pegasus (U Wisc-Madison), PHD (UW), PFRC (PPPL), SSX (Swarthmore College), TCS (UW), and ZaP (UW). Modifications have been made to the NIMROD, HiFi, and PSI-Tet codes to specifically model these experiments, including mesh generation/refinement, appropriate boundary conditions (external fields, insulating BCs, etc.), and kinetic and neutral particle interactions. The PSI-Center is planning to add neutrals to NIMROD. When implemented in NIMROD, these results will be compared to the neutral particle physics in the 2D version of HiFi. Coaxial helicity injection BCs will be specified in HiFi to simulate the Caltech coplanar experiment, for verification with previous and ongoing NIMROD simulations. Results from these simulations, as well as an overview of the PSI-Center status will be presented.

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