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MHD Simulations of Spheromaks and HIT-SI GEORGE MARKLIN, PSI Center, University of Washington, CHRIS HANSEN, AA Dept., University of Washington, TOM JARBOE, PSI Center, University of Washington — The PSI Center's tetrahedral mesh MHD equilibrium code, PSI-TET, has been upgraded to solve the time-dependent ideal and resistive MHD equations with either bare conductor or insulated conductor boundary conditions. This poster will describe the numerical methods for solving both the linear and non-linear MHD equations and the numerical technique for implementing the insulated conductor boundary condition. Solutions will be presented for: (1.) Ideal and resistive MHD simulations of a cylindrical spheromak tilting mode with both bare conductor and insulated conductor boundary conditions, which are compared to highlight the effect of an insulated conducting wall and: (2.) Resistive MHD simulations of an inductively formed and sustained spheromak in the HIT-SI experiment with insulated conducting walls and specified time varying injector fluxes and currents.

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