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**Boundary conditions in MH4D, a tetrahedral mesh MHD code**  
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TEAM — Boundary condition enhancements have been made to MH4D, a paral-  
lelized, tetrahedral mesh finite volume MHD code. Multi-directional periodic bound-  
ary conditions have been implemented and tested by simulating obliquely propagat-  
ing linear sound waves and shear Alfvén waves in a triply periodic box. Dispersion  
relations were found to be in good agreement with expected values. An insulating  
boundary condition has been added such that plasma interaction with electrically  
isolated electrodes can be modeled. A plasma-armature railgun has been simulated  
in rectangular geometry. Initial simulations of the ZaP z-pinch experiment have  
been conducted. This poster describes these boundary condition implementations  
and associated simulations.

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