Abstract Submitted
for the DPP11 Meeting of
The American Physical Society

Multiscale LES Models for Incompressible Magnetohydrodynamics[1] DAVID SONDAK, ASSAD OBERAI, Rensselaer Polytechnic Institute — We develop novel LES models for incompressible magnetohydrodynamics (MHD). Energy equations for the resolved magnetic induction and the velocity fields are presented and analyzed to gain insight into the nature of the new model terms. In particular, the ability of the multiscale technique to capture the small scale dynamo is assessed. Following this *a priori* energy analysis, energy spectra of the magnetic induction and the velocity field are compared to those obtained via direct numerical simulations in order to gauge the performance of the new models.

[1]Research supported by an award from the Department of Energy Office of Science Graduate Fellowship Program under contract number DE-AC05-06OR23100.

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Date submitted: 15 Jul 2011 Electronic form version 1.4