Abstract Submitted
for the DPP06 Meeting of
The American Physical Society

Boundary Conditions in Collisionless Magnetic Reconnection
MICHAEL SHAY, University of Delaware — Magnetic reconnection itself can be thought of as an interface between fluid and kinetic processes, for this multiscale energy release process is facilitated by kinetic physics at very small scales but drives effects at global scales. Because reconnection is inherently multiscale, kinetic simulations of reconnection cannot resolve the global scales, and therefore must simulate a smaller idealized geometry. As such, the boundary conditions of these idealized simulations are a key issue in determining what physics conclusions can be drawn from a particular simulation study. Boundary conditions and their role in reconnection scaling studies will be discussed. Recent simulation results which may shed light on boundary condition issues will be presented.

Michael Shay
University of Delaware

Date submitted: 21 Jul 2006 Electronic form version 1.4