

Abstract Submitted  
for the DPP15 Meeting of  
The American Physical Society

**Asymmetric coupled interchange-ballooning dynamics during magnetic reconnection in the solar wind driven magnetosphere<sup>1</sup>** EHAB HASSAN, W. HORTON, D.R. HATCH, University of Texas at Austin, O. AGULLO, M. MURAGLIA, S. BENKADDA, Aix-Marseille University, PIIM, Marseille, France, INSTITUTE FOR FUSION STUDIES COLLABORATION, PIIM/CNRS, AMU, MARSEILLE, FRANCE COLLABORATION — Fast reconnection in the magnetosphere and the geomagnetic tail involves electron scale dynamics that includes the electron inertial scale length on the inner scale and the ion gyroradius on the outer scale. New forms of the partial differential equations for the electric and magnetic field during the fast interchange dynamics. Typical data is that of the fast reconnection with dominant electron heating reported in the Nakamura et al. from CLUSTER data. New formulas extend to smaller scales the previous simulations of Horton et al. [2007] for this event by including more electron dynamics and heating. 3D-simulations and movies of the dynamics are presented.

<sup>1</sup>Supported by US-DoE grant to UT and CNRS grant to AMU.

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Date submitted: 24 Jul 2015

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