

Abstract Submitted  
for the DPP09 Meeting of  
The American Physical Society

**Turbulence-Driven Magnetic Reconnection**<sup>1</sup> WILLIAM NEVINS,  
ERIC WANG, ILON JOSEPH, LLNL, JEFF CANDY, GA, SCOTT PARKER,  
YANG CHEN, U of CO, GREG REWOLDT, PPPL — Data from finite-beta gy-  
rokinetic simulations of ion temperature gradient turbulence show localized modifi-  
cations to the magnetic shear in the neighborhood of low order rational surfaces. We  
analyze this data with the object of determining if these modifications result from  
magnetic reconnection. When magnetic reconnection occurs, we employ Poincaré  
surface-of-section plots to determine the degree to which the reconnection results in  
island formation or generalized magnetic stochasticity.

<sup>1</sup>This work performed under the auspices of the U.S. Department of Energy by  
Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344.

William Nevins  
LLNL

Date submitted: 09 Jul 2009

Electronic form version 1.4