Magnetic Reconnection: The Roles of Geometry, Beta, and Alfvén Velocity in Planetary Magnetospheres and in the Solar Wind

C.T. Russell¹, T.L. Zhang², Y.S. Ge¹, M. Nowada³, and J.G. Luhmann⁴
¹UCLA; ²OEAW, Austria; ³NCU, Taiwan; ⁴UCB

SHINE-GEM Session 7: Comparing the Properties of Reconnection in Various Environments

- Reconnection is controlled by magnetic geometry and plasma conditions
- X-line geometry produces fast reconnection; planar geometry produces slow reconnection or annihilation
- High Mach number flows produce high beta magnetosheaths leading to low reconnection rates. Center of plasma sheet is high beta plasma with low reconnection rate