

Abstract Submitted
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3D Magnetic Reconnection and Turbulence Study on Natural and Laboratory Plasmas at RSX¹ D.T. LIU, Columbia University, T.P. INTRATOR, T.E. WEBER, J.A. SEARS, C.S. ADAMS, LANL, LOS ALAMOS NAT'L LAB TEAM — In natural and laboratory plasmas, magnetic reconnection and turbulence are difficult 3-dimensional problems and data from the Reconnection Scaling Experiment (RSX) can help address these questions. The data from RSX are fully 3D (no symmetries) and capture the unsteady, dynamic plasma physics of colliding flux ropes that reconnect and form turbulent modes. Data obtained from RSX via B-dot and triple Langmuir probes will be used to determine the time-integrated magnetic field, plasma density, floating potential, and electrostatic field. Additionally, there exist related reconnection and turbulence data from spacecraft that must be downloaded and distilled from large, cumbersome datasets, a process hampered by low telemetry rates. Simulated spacecraft trajectories through the RSX datasets provide insight for data acquisition, analysis, and download aboard spacecraft missions.

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