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Experimental and Numerical Study of Drift Alfvén Waves in LAPD BRETT FRIEDMAN, P. POPOVICH, T.A. CARTER, D. AUERBACH, D. SCHAFFNER, UCLA — We present a study of drift Alfvén waves in linear geometry using experiments in the Large Plasma Device (LAPD) at UCLA and simulations from the Boundary Turbulence code (BOUT). BOUT solves the 3D time evolution of plasma parameters and turbulence using Braginskii fluid equations. First, we present a verification study of linear drift Alfven wave physics in BOUT, which has been modified to simulate the cylindrical geometry of LAPD. Second, we present measurements of density and magnetic field fluctuations in the LAPD plasma and the correlation of these fluctuations as a function of plasma parameters, including strength of the background field and discharge current. We also compare the measurements to nonlinear BOUT calculations using experimental LAPD profiles.

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