

Abstract Submitted  
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**Observation of Electromagnetic Drift-Alfvén Waves in Increased  $\beta$  Laboratory Plasmas (PhD Oral-24)** GIOVANNI ROSSI, TROY CARTER, JEFFREY ROBERTSON, University of California, Los Angeles, MJ PUESCHEL, University of Wisconsin, Madison — The variation of pressure-gradient driven turbulence with plasma  $\beta$  (up to  $\beta \approx 15\%$ ) is investigated in linear, magnetized plasma. The magnitude of magnetic fluctuations is observed to increase substantially with increasing  $\beta$ . More importantly, parallel magnetic fluctuations are observed to dominate at higher  $\beta$  values, with  $\delta B_{\parallel}/\delta B_{\perp} \approx 2$  and  $\delta B/B \approx 1\%$ . Parallel magnetic fluctuations are strongly correlated with density fluctuations and the two are observed to be out of phase. The relative magnitude of and cross-phase between density and parallel magnetic field fluctuations are consistent with dynamic pressure balance ( $P + \frac{B_{\parallel}^2}{2\mu_0} = \text{constant}$ ). A local theory of modified drift-Alfvén waves, including parallel magnetic fluctuations is qualitatively and quantitatively consistent with the observations.

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