

Abstract Submitted
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Rapid Changes of Turbulence Propagation Direction in the Edge of Alcator C-Mod¹ ISTVAN CZIEGLER, JAMES TERRY, MIT PSFC —

The velocity fields and scale structure of the edge and near SOL turbulence in the outboard midplane region of ohmic L-mode plasmas have been characterized using Gas-Puff-Imaging measurements. Poloidal resolution was provided by a vertical array of views and radial profiles were constructed from slow spatial scans of the magnetic separatrix across this vertical array. The observed dispersions show a clear radial structure [1] with turbulence propagating in the ion-diamagnetic direction ($1.5 - 2$ km/s) at and outside the separatrix, and in the electron-diamagnetic direction ($3.5 - 4$ km/s) at and inside the separatrix. We have investigated the crossover region around the separatrix where for observation durations $\gtrsim 1$ ms two counter-propagating velocities are observed. We find that for shorter observation durations rapid changes in the propagation direction are revealed, with the speed of propagation remaining largely invariant. We present data on the statistical behavior of both the propagation velocities and the temporal-spatial structure of the edge turbulence.

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