

Abstract Submitted
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Poloidal Variation of Impurity Density and Flows in the Pedestal Region R.M. CHURCHILL, B. LIPSCULTZ, C. THEILER, J.W. HUGHES, MIT PSFC, ALCATOR C-MOD TEAM — The pedestal region plays an important role in determining the overall performance of tokamak plasmas. Despite its importance, much of the physics determining the transport in, and structure of, the pedestal is still being developed. Experimental characterization of the pedestal region can help guide theory development and provide benchmark tests for codes. A unique set of CXRS views at both the low-field side (LFS) and high-field side (HFS) midplane of Alcator C-Mod provides measurements of the boron ($Z=5$) impurity density, temperature, and both poloidal and toroidal bulk velocity. These views allow studying how impurity density varies on a flux surface in the presence of strong gradients, and also how flows change. Experimental evidence of an in-out impurity density asymmetry will be discussed, for a range of plasmas with varying collisionality and L_{ni}/L_{Ti} ratio. Total flow vectors will also be presented and the variation between LFS and HFS flows will be compared to that predicted by neoclassical theory. Supported by USDoE award DE-FC02-99ER54512.

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