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Impurity poloidal rotation for 0.75 < r/a < 1.0 in Alcator C-Mod plasmas¹ W.L. ROWAN, I.O. BESPAMYATNOV, R.V. BRAVENEC, Fusion Research Center, The University of Texas at Austin, D.R. ERNST, D.F. BEALS, R.S. GRANETZ, R.M. MCDERMOTT, MIT PSFC — Measurements of poloidal rotation, temperature, and density gradient for boron impurity ions in Alcator C-Mod will be presented for 0.75 < r/a < 1.0 in L-mode, enhanced D-alpha (EDA), and ELMing H-Mode discharges. The emphasis here is on comparing poloidal rotation in different discharge regimes and on comparison with neoclassical predictions. The measurements are derived from CXRS and from spectroscopy of ambient impurity emission. For the CXRS data, the main analysis issues are proper accounting for the empirical uncertainties in the rotation measurement and the energy dependence of the charge exchange cross sections. For the ambient data, it is unfolding of the local rotation from chord-averaged measurements. Profile changes of the rotating impurity play a role in understanding the poloidal rotation changes in the L to H transition so impurity profiles will be included where possible. We will also present radial electric field estimates based on the measurements.

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