

Abstract Submitted
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Study of B^{+1} , B^{+4} and B^{+5} impurity poloidal rotation in Alcator C-Mod plasmas for $0.75 < \rho < 1.0$.¹ IGOR BESPAMYATNOV, WILLIAM ROWAN, RONALD BRAVENEK, KENNETH GENTLE, The University of Texas at Austin, Fusion Research Center, ROBERT GRANETZ, DEXTER BEALS, MIT Plasma Science and Fusion Center — Poloidal and toroidal velocities of B^{+1} , B^{+4} and B^{+5} impurity ions are measured in Alcator C-Mod tokamak plasmas using charge exchange recombination spectroscopy (CXRS) for B^{+5} and ambient emission for B^{+1} and B^{+4} . The set of 25 poloidal optical channels, 10 toroidal optical channels, modulated diagnostic neutral beam and fast Roper CCD camera allow 2mm poloidal spatial resolution in the region $0.75 < r/a < 1.0$ and 10 mm toroidal spatial resolution with 13 msec temporal resolution at all times during the 1.5 sec plasma pulse. The variation in the poloidal rotation as the plasma transitions from ohmic to L- to H-mode will be described. Implications for E_r will be discussed. Data for ELMing and EDA H-modes will also be presented. The emphasis of this work is on comparing the poloidal rotation of B^{+1} , B^{+4} and B^{+5} impurities, cataloging the effects of difference plasma modes and finally on attempting to understand the poloidal rotation based on neoclassical theories.

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Igor Bespamyatnov
The University of Texas at Austin, Fusion Research Center

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