

Abstract Submitted
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Toroidal Flow Measurements of the Pedestal Region of Alcator C-Mod Using a D_2 Puff to Stimulate Boron CXRS¹ KENNETH MARR, BRUCE LIPSCHULTZ, BRIAN LABOMBARD, JOHN RICE, JAMES TERRY, MIT Plasma Science and Fusion Center — Here we present the use of Charge-exchange Recombination Spectroscopy (CXRS) to measure the toroidal velocity and temperature of fully-stripped boron in the inner-wall pedestal region (region around the last closed flux surface) of Alcator C-Mod. The $n = 7 \rightarrow 6$ emission at 494.467nm is stimulated by a puff of neutral D_2 gas at the inner-wall midplane. The puff localizes the emission and negates the need for line-of-sight integration. It is assumed that the boron has obtained equilibrium with the bulk plasma and therefore is also a good measure of bulk toroidal velocity and temperature. The measurement apparatus, analysis methodology, and some results are presented here. The results will also be compared to similar measurements of the same parameters. Though potentially able to provide continuous measurement (depending on puff length) of these parameters in the pedestal region, this method provides only a limited radial profile due to the limited intersection of B^{+5} with the injected neutrals.

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