

Abstract Submitted  
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**Mode conversion current drive studies on Alcator C-Mod<sup>1</sup>** A. PARISOT, S.J. WUKITCH, P. BONOLI, Y. LIN, R. PARKER, M. PORKOLAB, A.K. RAM, J.C. WRIGHT, MIT PSFC — Current drive from mode converted waves in the ion cyclotron range of frequencies is being investigated on the Alcator C-Mod tokamak. In experiments where the mode conversion layer was swept through the  $q = 1$  surface, significant variations in the sawtooth period were obtained. The results are consistent with localized mode conversion current drive and are in qualitative agreement with full wave simulations using the TORIC code [M. Brambilla, *Plasma. Phys. Cont. Fusion* 41 (1999)]. Measurements of net current drive based on loop voltage differences have been attempted during the flattop and ramp-up phases of C-Mod discharges. The experimental results and analysis using TORIC and TRANSP simulations will be presented. Numerical calculations have also been improved by coupling TORIC with the Fokker-Planck code DKE [J. Decker, PhD Thesis, MIT], which allows for a better treatment of magnetic trapping effects when calculating the local current drive efficiency.

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