## Abstract Submitted for the DPP08 Meeting of The American Physical Society

Interaction of Lower Hybrid Waves with the Scrape Off Layer<sup>1</sup> G.M. WALLACE, R.R. PARKER, P.T. BONOLI, A.E. SCHMIDT, D.G. WHYTE, S.J. WUKITCH, MIT Plasma Science and Fusion Center, J.R. WILSON, Princeton Plasma Physics Laboratory — The Lower Hybrid Current Drive (LHCD) system on Alcator C-Mod was designed to drive current in the core plasma, however several interesting Scrape Off Layer (SOL) phenomena have been observed during recent operation. Visible imaging during plasma discharges shows bright stripes of plasma emission, tilted along the magnetic field lines and modulated with LH power, across the LH launcher face. Post-campaign inspection of the launcher has shown significant melting of the waveguide walls in the same location as the bright stripes seen on the camera, indicating a localized interaction between the high power LH waves and the SOL plasma. Additionally, parallel current densities of  $\sim 500 \text{ kA/m}^2$  are observed on divertor Langmuir probes just outside the separatrix during high power LH operation above  $n_{e0}=10^{20} \text{m}^{-3}$ . The plasma density in the outer SOL is also observed to increase when the LH is turned on. These observations indicate LH power is absorbed in the SOL, especially at higher density.

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