

Abstract Submitted  
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**Amplitude modulation of lower hybrid waves for transport control**<sup>1</sup> G.M. WALLACE, S.G. BAEK, I.C. FAUST, T. GOLFINOPOULOS, B.L. LABOMBARD, R.T. MUMGAARD, R.R. PARKER, S.D. SCOTT, S. SHIRAIWA, J.L. TERRY, MIT PSFC — Steady, high-power lower hybrid (LH) waves have been shown to alter transport characteristics in the edge and pedestal regions of EDA H-modes on Alcator C-Mod [J. Hughes et al, Nuc. Fus., 2010]. The modifications of the pedestal are particularly striking in high-density H-modes [J. Terry, this conference], perhaps through interaction with the transport-regulating edge Quasi-Coherent Mode (QCM), since it is strongly affected by the injection of LH waves. The transport modification effect is present even at high densities for which LH waves are not accessible to the core plasma and current drive effects are negligible. Experiments have been conducted to determine if modulating LH power near the QCM frequency can enhance the beneficial effects of LH waves on the pedestal and the QCM. A new capability was developed to modulate the net LH wave power at frequencies from 1-200 kHz. The presence and character of edge modes was monitored using gas puff imaging, phase contrast imaging, reflectometry, and magnetic pickup loops.

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