

Abstract Submitted  
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**Characteristics of a Low Frequency Edge Oscillation seen during I-Mode on Alcator C-Mod**<sup>1</sup> WILLIAM MCCARTHY, BRIAN LABOMBARD, ADAM KUANG, Massachusetts Institute of Technology, DAN BRUNNER, Commonwealth Fusion Systems, AMANDA HUBBARD, THEODORE GOLFINOPOULOS, Massachusetts Institute of Technology — The I-mode confinement regime is characterized by H-mode like thermal confinement, L-mode like particle confinement and being ELM free, making it a good candidate for reactor scenarios. The Weakly Coherent Mode, a broad fluctuation ( $\sim 200$  kHz central frequency on C-mod) localized to the pedestal region is thought to cause the enhanced particle transport. A second mode, with much lower frequency ( $\sim 15$  kHz), has been observed in I-mode discharges. The mode spans the last closed flux surface and can be seen on divertor Langmuir probes as spikes in ion saturation current, and in a variety of other diagnostics. This mode likely contributes to I-mode transport. A database containing a large number of I-mode discharges has been assembled to investigate key questions: parameter space dependence on mode existence, central frequency and frequency width. Temporal dynamics of the mode have been explored using a scanning Langmuir Mach probe with a Mirror Langmuir probe bias system. Preliminary analysis suggests that thermal and particle transport are driven in opposite directions near the LCFS.

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