

Abstract Submitted  
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**Stability and ELM Characterization in I-Mode Pedestals<sup>1</sup>** J.R. WALK, J.W. HUGHES, MIT PSFC, P.B. SNYDER, GA, A.E. HUBBARD, J.L. TERRY, A.E. WHITE, D.G. WHYTE, S.G. BAEK, MIT PSFC, I. CZIEGLER, UCSD CMTFO, E. EDLUND, PPPL — The I-mode is a novel high-confinement regime explored on Alcator C-Mod, notable for its formation of an H-mode-like temperature pedestal without the accompanying density pedestal, maintaining L-mode particle confinement. I-mode exhibits a number of desirable properties for a reactor regime: among them, it naturally lacks large ELMs, avoiding the need for externally-applied ELM suppression. However, under certain conditions small, intermittent ELM-like events are seen. These events exhibit a range of phenomena in terms of edge and pedestal behavior, particularly for the ELM trigger - the majority of events are synchronized with the sawtooth heat pulse reaching the edge. The stationary pedestal structure is stable against peeling-ballooning MHD as calculated by ELITE in all cases, necessitating treatment of transient pedestal modification to characterize these events. We characterize these ELM events in terms of edge behavior, particularly the modification of the temperature pedestal, edge turbulence and fluctuations, and peeling-ballooning MHD stability.

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