

Abstract Submitted  
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**Progress in characterizing pedestal stability on Alcator C-Mod**<sup>1</sup> J.W. HUGHES, R.M. CHURCHILL, I. CZIEGLER, E.M. DAVIS, A. DOMINGUEZ, P. ENNEVER, D. ERNST, A.E. HUBBARD, B. LIPSCHULTZ, Y. MA, J.R. WALK, S.M. WOLFE, MIT Plasma Science and Fusion Center, P.B. SNYDER, T. OSBORNE, General Atomics, X. XU, Lawrence Livermore National Laboratory, L. SUGIYAMA, MIT Laboratory for Nuclear Science — Experimental studies on Alcator C-Mod explore pedestal structure and edge relaxation mechanisms primarily in three high confinement regimes: ELMy H-mode, EDA H-mode and I-mode. Extensive scans of  $B_T$ ,  $I_P$ ,  $n_e$ ,  $P_{net}$  and shaping parameters have been carried out in these regimes, allowing the characterization of the operating space for ELMs as well as benign pedestal relaxation mechanisms (e.g. quasi- and weakly coherent modes). Well resolved edge profiles and accurate equilibrium reconstructions are produced from typical discharges, enabling evaluation of edge stability using various computational tools, such as ELITE, BOUT++, M3D and GS2. Relationships among dominant edge instabilities, radial transport and pedestal structure will be discussed.

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