

Abstract Submitted  
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**Pedestal Density Fluctuations During Quiescent and ELMing H-mode Plasmas**<sup>1</sup> Z. YAN, G.R. MCKEE, M.W. SHAFER, U. Wisc.-Madison, R.J. GROEBNER, P.B. SNYDER, K.H. BURRELL, T.H. OSBORNE, A.W. LEONARD, General Atomics, T.L. RHODES, L. ZENG, UCLA — Spatially resolved density fluctuation characteristics have been measured in the pedestal region of quasi-steady-state Type I ELMing plasmas and ELM-free quiescent H-mode (QH) plasmas using 2D beam emission spectroscopy measurements. During Type I ELMing plasmas, these fluctuations are modulated with the ELM cycles. Two distinct frequency bands (20-200 kHz and 250-450 kHz) are observed propagating in opposite directions. In QH-mode plasmas, discrete and coherent modes are observed in the pedestal region of particular discharges at relatively high-pedestal pressure. These modes appear from 50-250 kHz, peaking in amplitude around 150 kHz, with a uniform frequency separation of about 10 kHz. Observed characteristics of these modes will be compared with those from ELITE calculations of theoretically predicted pressure-gradient limiting instabilities, such as kinetic ballooning modes.

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