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Pedestal Density Fluctuations During Quiescent and ELMing H-mode Plasmas* Z. Yan, G.R. McKee, M.W. Shafer, *U. Wisc.*; 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 250–450kHz) 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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