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Impact of magnetic field and heating power on Er profile and fluctuations in I-mode pedestals in C-Mod[1] JERRY HUGHES, T.M. WILKS, MIT, C. THEILER, EPFL, A.E. HUBBARD, S.-G. BAEK, MIT, M. CHURCHILL, PPPL, I. CZIEGLER, YPI, E. EDLUND, J. RICE, E. TOLMAN, MIT, C-MOD TEAM — Cross machine comparisons of I-mode show robust stationary ELM suppressed plasmas over broad operating conditions, suggesting the potential for the regime to be utilized in future reactors. I-modes typically exhibit separation of particle and energy transport channels, often associated with the weakly coherent mode (WCM) coupled to a GAM-like fluctuation in the edge pedestal region. C-Mod I-mode pedestals are analyzed over varied magnetic fields (2.8-5.8T) and auxiliary power (1.5-4.6 MW) to determine trends in the edge radial electric field, ExB shear, rotation, and fluctuations. In a controlled power ramp, the radial electric field well increases with power before reaching its maximum before the I-H transition. With increased input power, preliminary observations show an increase in the fluctuation frequencies, followed by a frequency reversal associated with an increase in mid-spectrum fluctuations. Previous research has explored the L-I and I-H power thresholds dependence on plasma density, surface area and magnetic field, allowing us to examine pedestal ExB shear as a function of proximity to these thresholds.

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