

Abstract Submitted  
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**Local electromagnetic turbulence characterization during type-I ELM cycle in DIII-D H-mode pedestal**<sup>1</sup> K.K. BARADA, T.L. RHODES, UCLA — For the first time, local internal perpendicular density and magnetic field fluctuations during the time between type-I ELMs are measured in the pedestal of the DIII-D tokamak. These measurements are made with Doppler backscattering (for  $\tilde{n}$ ) and cross polarization scattering (for  $\tilde{B}$ ) with  $0.26 \leq k_{\perp}\rho_i \leq 1$ . The broadband magnetic fluctuations exist  $\sim 9$  mm in radial extent from the foot of the pedestal to the steepest gradient. The density fluctuations propagate in the electron diamagnetic direction and appear as a saturated mode when the pedestal gradient starts to develop. The magnetic fluctuations propagate in the ion diamagnetic direction (lab frame) initially and later in electron direction when pedestal gradients are saturated. These fluctuations appear just after the ELM crash in the outermost probed radius and gradually grow towards the inner radius and their times of persistence increase towards the innermost radius of existence. We will present comparisons of experimental results to gyrokinetic predictions of different electrostatic (TEM, ITG) and electromagnetic (KBM and MTM) modes.

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