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Impact of Resonant Magnetic Perturbations (RMPs) on Turbulence Drive, Damping, and Transport[1] R.A. MOYER, S. MORDIJCK, UCSD, C. ROST, MIT-PSFC, G.R. MCKEE, U. Wisc.-Madison, T.L. RHODES, E.J. DOYLE, L. ZENG, L. SCHMITZ, UCLA, T.E. EVANS, GA — It has been previously reported that broadband density fluctuations increase in RMP ELM-suppressed discharges in DIII-D, suggesting that electrostatic turbulence plays a role in RMP ELM suppression similar to the Edge Harmonic Oscillation in QH-modes: increasing particle transport to stabilize ELMs. Recent results show that the RMP-induced changes for ion-scale turbulence vary with radius. In the core, ion-scale fluctuations ($k_\theta \rho_i \approx 0.2$) increase, while in the H-mode pedestal, they decrease. These changes correlate with $E \times B$ shearing rate changes. However, the $E \times B$ shearing rate doesn't scale with increasing RMP-coil current as the density pump-out does, suggesting that turbulence drive (ion pressure gradient) or intermediate-scale modes ($k_\theta \rho_i \approx 1$) are important or that the turbulence and $E \times B$ shear changes are linked to remnant islands as seen in previous devices with stochastic fields.

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