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Multi-field/Multi-scale Turbulence Response to EC Heating of DIII-D Ohmic Plasmas,* G. Wang, W.A. Peebles, T.L. Rhodes, J.C. Hillesheim, E.J. Doyle, L. Schmitz, L. Zeng, *UCLA*; A.E. White, *MIT*; Z. Yan, G.R. McKee, *U. Wisc.*; J.C. DeBoo, C.C. Petty, K.H. Burrell, A.W. Leonard, G.M. Staebler, *GA*; and W.M. Solomon, *PPPL* – Understanding plasma turbulence in existing fusion devices is essential to establishing a predictive capability of turbulence and transport model for future devices like ITER. Historically, such effort has tended to focus on long wavelength density turbulence with little attention given to electron temperature fluctuations and/or short-scale density turbulence. In this work, we report the response of low-k electron temperature turbulence and low-, intermediate-, and high-k density turbulence (ñ/n) to EC heating of DIII-D Ohmic plasmas in the core region. It is observed that ñ/n of low- and intermediate-k shows little change with ECH, while high-k density and electron temperature turbulence amplitude increased strongly. Results of transport analysis and linear gyro-kinetic stability simulations will also be reported.

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