

Abstract Submitted  
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**Role of stable eigenmodes in 3D ETG-driven turbulence** JUHYUNG KIM, PAUL W. TERRY, Department of Physics, University of Wisconsin at Madison — The role of stable eigenmodes in Electron-Temperature-Gradient driven (ETG) turbulence is investigated. Low-wavenumber stable eigenmodes are thought to play a role in the dissipation mechanism leading to saturation of CTEM[1] and ITG[2] turbulence. Evidence has been found that the formation of magnetic coherent structures and the transition to a turbulence regime with stronger magnetic fluctuations are dependent of the ETG low  $k$  stable modes in 2D fixed- $k_z$  fluid simulations[3]. A 3D code has been constructed to investigate the role of stable modes in 3D sheared slab geometry. Magnetic structure formation and electromagnetic ETG turbulence will be discussed in detail. [1] P. W. Terry, D. A. Baver and S. Gupta, Phys. Plasmas **13**, 022307 (2006). [2] R. Gatto, P. W. Terry and D. A. Baver, Phys. Plasmas 13 022306 (2006). [3] J.-H. Kim and P. W. Terry (2008), 50th Annual Meeting of the Division of Plasma Physics, APS.

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