Abstract Submitted
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Turbulence and Transport Dependence on Plasma Shape in DIII-D[1] T.L. RHODES, W.A. PEEBLES, L. SCHMITZ, J.C. HILLESHEIM, G. WANG, L. ZENG, E.J. DOYLE, UCLA, C. HOLLAND, UCSD, G.R. MCKEE, U. Wisc., A.E. WHITE, ORISE, J.C. DEBOO, K.H. BURRELL, C.C. PETTY, General Atomics — Using a unique array of diagnostics the dependence of turbulence and transport on plasma shape (elongation, elongation shear, and triangularity) is studied. The diagnostic set includes FIR scattering, Doppler backscattering, correlation ECE, BES, reflectometry, and high-k backscattering. This covers a broad range in wavenumber ($0 \leq k\rho_s \leq 10$) and fields (density, temperature, flows). The measurements concentrated primarily on L-mode plasmas, although, H-mode was obtained in one shape. Data were obtained using two different heating methods, neutral beam and EC heated. Initial results show strong decreases in density and temperature fluctuation levels as the plasma elongation is increased at fixed q_{95}. Thermal transport is reduced as well. This data set was acquired in order to make detailed comparisons to turbulence and transport models such as GYRO and TGLF.

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T.L. Rhodes
UCLA

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