Abstract Submitted
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**Electron Transport Dominated Regimes in Alcator C-Mod**[1] M. PORKOLAB, J. DORRIS, P.T. BONOLI, P. ENNEVER, C. FIORE, M. GREENWALD, A. HUBBARD, Y. MA, M.L. REINKE, J. RICE, J. ROST, N. TSUJII, MIT, L. LIN, UCLA, J. CANDY, R. WALTZ, General Atomics, P. DIAMOND, C.J. LEE, UCSD — In ohmically heated low density plasmas where $\tau_E \propto n_e$, the so-called neo-Alcator regime, TRANSP results indicate that $\chi_i << \chi_e$, while nonlinear gyrokinetic analysis for the measured profiles predicts the opposite inequality [1]. This regime is of great interest for transport studies since Ti < Te, and the electron and ion transport channels can be separated and studied separately. At the same time, measurements of turbulent fluctuations with Phase Contrast Imaging diagnostic (PCI) indicated reasonable agreement with GYRO predictions at frequencies 80-250 kHz, corresponding to core ITG turbulence. The turbulent spectrum at lower frequencies could not be identified since the PCI technique does not allow separation of the core plasma fluctuations from those at the edge. Here we present measurements and analysis from a more extensive set of plasma regimes than previously. Of particular current interest is the role of electron drift wave turbulence driven by ohmic electron drift, U [2], since in these low density regimes $U/C_s \leq 6$, and experimentally we find that the global confinement $\tau_E \propto C_s/U$ where $C_s = (T_e/m_i)^{1/2}$. [1] L. Lin, Invited talk, APS-DPP, 11, 2009, Atlanta, GA. [2] C.J. Lee, P. Diamond, M. Porkolab, presented at TTF workshop, 2010.

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