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Documentation and Search for Missing Near Edge L-mode Transport,* R.E. Waltz, *GA*; C. Holland, *UCSD* — While GYRO simulations of the core ($0<r/a<0.7$) in typical DIII-D L-modes seems to be in good agreement with experiment, local GYRO simulated low-k ($k_\theta\rho_s<1$) transport and turbulence intensity is about 5-fold lower than experimentally inferred levels in the near edge L-mode (r/a=0.7–0.95) DIII-D shot 128913 [1]. Global slice GYRO simulations of this and other well-studied discharges [2] are presented here to further document the shortfall. TGLF transport simulations over a large L-mode database indicate this short fall is not atypical and L-modes easily transit to H-like profiles. High edge e-i collisionality stabilizes the TEM modes so that χ_e decreases like $T^{7/2}$/n to the cold edge. The very high magnetic shear stabilizes the ITG despite the very high temperature gradient drive and high q. High-k ETG can make up for the shortfall in the electron but not the ion channel. Near edge L-mode transport is highly local. Artificially large edge damping of the zonal flows/GAMs helps only somewhat.

[1] C. Holland, A E White, *et al,,* Phys. Plasmas **16**, 052301 (2009).
[2] R.E. Waltz, *et al*,, Phys. Plasmas **13**, 072304 (2006).

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