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Interpretation of thermal conduction and toroidal momentum transport in DIII-D, taking into account IOL and pinch velocity.[1] J.J. ROVETO, W.M. STACEY, Georgia Tech, R.J. GROEBNER, General Atomics — The capability of the Georgia Tech GTEDGE edge transport interpretation code has been upgraded to include improved ion-orbit-loss models for neutral beam and thermalized ions in the edge plasma. We are undertaking a new comparison of various theoretical thermal diffusivity models with the improved interpretation of experimental edge transport now possible. The experimental values are being compared with various theoretical models, including paleoclassical, neoclassical, ITG, drift ballooning mode, TEM, and ETG. An improved interpretation of viscous drag considering ion orbit loss is considered and compared to that without ion-orbit-loss effects. This effort is examining two H-mode DIII-D shots, #144977 and #123302. The improved interpretation leads to quite different experimental thermal diffusivity profiles in the edge than previously reported when ion-orbit-loss effects are included (as much as 50% lower at the separatrix for shot #123302)..

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