Collisional Braginskii closure vs. the integral closure and closing the fluid equations[1] J.-Y. JI, E.D. HELD, Utah State University — Recent calculation of the exact linearized Coulomb collision operators and the general moment equations[2] are introduced. As an application, higher order terms for the collisional heat flux closure are derived and the limitation of the collisional Braginskii closure is evaluated quantitatively. For plasmas with general collisionality, the integral heat flux closure based on the pitch-angle scattering operator[3] is introduced and its physical meaning is discussed in comparison with the Braginskii closure. Improvements to the derivation of general closures with a more rigorous treatment of the collision operator and a general scheme for closing the fluid equations are presented.

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