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Modifications to Neoclassical Poloidal Flow Due to Drift-Wave Turbulence[1] G.M. STAEBLER, General Atomics — The impact of the effective "collision" operator due to drift-wave turbulence on the fluid transport equations is reviewed. In particular, the turbulence terms that modify the neoclassical solution for the poloidal flow are identified. As shown by Sugama and Horton [Phys. Plasmas **2**, 2989 (1995) and Shaing [Phys. Fluids **31**, 2249 (1998)] the turbulence "collision" operator contributes source terms to the second order parallel momentum and energy equilibrium. The momentum source term is small since the parallel wavenumber of the drift-wave turbulence is small, but the energy source term can modify the parallel ion energy flow which drives the neoclassical poloidal rotation. A new way in which the turbulence can impact the neoclassical flow is found in this work. The neoclassical relation between the ion pressure anisotropy and the parallel-parallel component of the flow shear stress tensor can be changed by the turbulent energy exchange between electrons and ions. The relative strengths of these various turbulence driven contributions to the neoclassical poloidal flow are compared and the conditions under which the deviations from the standard neoclassical poloidal flow are large will be given.

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