

**Abstract**

Reduced steady magnetohydrodynamic (MHD) equations in low- $\beta$  tokamak plasmas with an inhomogeneous magnetic field have been derived by an expansion in an inverse magnetic field  $1/B$  as a small parameter. The force, density and energy equations constitute our reduced steady hydrodynamic model for magnetized systems. These reduced steady magnetohydrodynamics equations show the effects of transport associated with fluctuations as well as standard neoclassical transport. The fluid moments  $p$  and  $\rho$  in steady magnetohydrodynamics equations show both equilibrium and fluctuating parts including effects associated with toroidal particle drift.