

Abstract Submitted
for the DPP09 Meeting of
The American Physical Society

Bootstrap current and transport fluxes associated with bounce-transit and drift resonance in tokamaks B.C. TRANS, Plasma and Space Science Center, National Cheng Kung University, K.C. SHAING, Plasma and Space Science Center, National Cheng Kung University, M.S. CHU, General Atomics, S.A. SABBAGH, Columbia University — Bootstrap current and transport fluxes caused by the bounce-transit and drift resonance are calculated by solving parallel and toroidal momentum balance equations in tokamaks that have error fields and magnetohydrodynamic (MHD) activities. Because error fields are not localized around a surface where the safety factor is a rational number, the bootstrap current densities on either side of the rational surface do not cancel. Thus, there is a net contribution to the equilibrium bootstrap current. This may offer a possibility to control bootstrap current by error fields. Other transport quantities of interest such as parallel flow speed, radial electric field, and particle and heat flux are also calculated.

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Date submitted: 19 Jul 2009

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