

# **Convective motion in collisionless trapped electron mode turbulence**

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**Abstract.** Global gyrokinetic particle simulation of collisionless trapped electron mode turbulence in toroidal plasmas finds both diffusive and convective electron motion using a Lagrangian analysis. The convective motion is identified using simulation and analytic theory to arise from the conservation of the second invariant when resonant trapped electrons lose kinetic energy to the drift wave. A resonance broadening model fits well the diffusive and convective electron motion.