

# Generation and saturation of large scale flows in electrostatic turbulence

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The excitation and suppression of large-scale anisotropic flows during the temporal evolution of electrostatic instabilities driven by spatial inhomogeneities is numerically investigated. We limit our discussion for the flute and the toroidal ion temperature gradient mode instabilities. The non—linear formation of streamer and zonal flows is attributed to the inverse energy cascade towards large scales, as a result of the non--linear coupling with linearly unstable modes. The growth, the saturation and the interplay between these large-scale structures are numerically investigated, and their dependence on diamagnetic and finite ion Larmor effects is depicted. The diffusion (spatial and energy) properties of test particles in the saturated fields are discussed.