

Abstract Submitted
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Study of Shear Flow Effect on turbulence by GTC ZHIXUAN WANG, ZHIHONG LIN, University of California, Irvine — Shear flow, which can be generated by external field or turbulence of the plasma itself, is by now generally accepted as one of the most important factors to form transport barriers, both at the edge and further into the plasma core, and thus to enhance plasma confinement for ignition. However, the mechanism which leads shear flow to less transport, especially the transport from Alfvén turbulence, is not well understood yet. A Gyrokinetic Particle Simulation (GTC) is applied to study such effects. Ion Acoustic wave, Drift wave and Doppler Effect by flow are now recovered from simulation with good agreement with theory. The code will be used to study the nonlinear effect of shear flow on different modes in tokamak geometry.

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