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**Phase dynamics mechanism of coupling between shear flow and turbulence**

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Zonal flow is playing important role in plasma confinement and transport[1],i.e., zonal flow suppresses turbulence when the correlation length of turbulence, such as drift wave, is much smaller than the characteristic length of zonal flow [2]. However recently gyro-kinetic simulation have found the zonal flow staircase[3], which have very low shear length scale, and experimentally found out in Tore Supra[4]. This induce us to reconsider the effect of shear flow/zonal flow, which may cause Kelvin-Helmholtz instability[5], on turbulence, especially its global phase[6].Because of the length scale of K-H instability is comparable with the shear flow, this work may help us understand meso-scale coherent structures, such as the formation mechanism of blob[7].

References

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Figure xx

Note: Abstract should be in 1 page.