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Transport of parallel momentum by the triplet correlation in drift wave turbulence

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Recent progress on the modeling of turbulent transport of parallel flow momentum is reported. Compared to the Reynolds stress or the convective term, the role of the triplet (nonlinear) flux is emphasized. The triplet term is calculated in the wave turbulence limit. The result indicates that the nonlinear flux becomes important compared to the stress term in the region with the steep intensity gradient, such as the tokamak edge. As an application, we demonstrate the impact of the nonlinear flux for the generation of intrinsic rotation in the H-mode plasmas.

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