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Fluctuation-induced shear flow and energy transfer in plasma interchange turbulence[1] AO ZHOU, HUAXIANG ZHANG, CHUANKUI SUN, XUEYUN WANG, BO LI, XIAOGANG WANG, Peking Univ — A flux-driven system of plasma interchange turbulence is developed to study the energy transfer and shear flow generation. Large-scale eddies are found during the nonlinear evolution of the interchange instability. With the increased heat flux, the system responds with higher pressure fluctuations. This gives rise to the stronger energy transfer from the thermal energy to the $\mathbf{E} \times \mathbf{B}$ kinetic energy, and then from the fluctuating to the mean $\mathbf{E} \times \mathbf{B}$ flow. As a result, stronger mean $\mathbf{E} \times \mathbf{B}$ shear flow is generated in the edge.

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