Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

**Energy transfer and shear flow generation in plasma interchange turbulence**[1] CHUANKUI SUN, XUEYUN WANG, AO ZHOU, BO LI, XIAOGANG WANG, Peking University, DARIN ERNST, Massachusetts Institute of Technology — Energy transfer and $\mathbf{E} \times \mathbf{B}$ shear flow generation in plasma interchange turbulence are examined in a flux-driven system with both closed and open magnetic field lines. The nonlinear evolution of interchange turbulence shows the presence of two regimes characterized by low and high $\mathbf{E} \times \mathbf{B}$ flow shear. In the first regime, the mean $\mathbf{E} \times \mathbf{B}$ shear flow is at a relatively low level and the large-amplitude $\mathbf{E} \times \mathbf{B}$ velocity fluctuation dominates in the nonlinear saturated state. By increasing the heat flux that drives the system, the fluctuation-induced energy transfer becomes stronger and a transition to the second regime occurs, in which a high mean $\mathbf{E} \times \mathbf{B}$ flow shear is generated.

[1]ITER-CN Grant No. 2013GB112006

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Date submitted: 09 Jul 2015 Electronic form version 1.4