

Abstract Submitted
for the DPP16 Meeting of
The American Physical Society

Characterization of turbulent eddies and their associated transport¹ MIN XU, LIN NIE, Southwestern Institute of Physics, YI YU, ²School of Nuclear Science and Technology, USTC, Hefei, China, WULYU ZHONG, Southwestern Institute of Physics, XIAOLAN ZOU, CEA, IRFM, F-13108 Saint-Paul-lez-Durance, France, DONG GUO, BODA YUAN, ZHANHUI WANG, TING LONG, XURU DUAN, Southwestern Institute of Physics — The internal electric field of turbulent eddies has been experimentally measured by a two-dimensional Langmuir probe array, which shows potential peak or valley in both radial and poloidal directions. This is consistent with the expectation that the internal electric field of turbulent eddies either points towards the center or away from the center in both poloidal and radial directions. Fluctuating electron temperature and density associated with turbulent eddies have also been measured, in both L-mode and H-mode, and through the L-H transitions as well. The phase of the fluctuation velocity in all of the above discharges, including the case during ELMs, show that eddies mediated the turbulent momentum in such a way to enhance the mean ExB shear flow in the edge.

¹This work is supported by the China ITER Domestic Program 2013GB107001

Min Xu
Southwestern Institute of Physics

Date submitted: 15 Jul 2016

Electronic form version 1.4