

Abstract Submitted
for the DPP16 Meeting of
The American Physical Society

GTC Simulation of Static Magnetic Island Effect on Micro-turbulence¹ HONGYING FENG, Univ of Sci Tech of China, WENLU ZHANG, Chinese Academy of Sciences(CAS) — In magnetic confinement fusion physics, tearing mode is dangerous by changing the magnetic field topology and breaking the confinement. Micro-turbulences are also of great significance since the anomalous transport is believed to play a key role in the energy confinement. By introducing a static magnetic island, the relaxing process is investigated to construct the new steady profiles that evolve from the prior equilibrium profiles. The consequent pressure flattening within the magnetic island may pose significant impacts on properties and evolutions of micro-turbulence, which is also investigated through large scale particle simulations in this work.

¹Supported by National Special Research Program of China For ITER and National Natural Science Foundation of China.

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Date submitted: 15 Jul 2016

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