

Abstract Submitted  
for the DPP12 Meeting of  
The American Physical Society

**Microscopic Dynamics of Plasma Blob**<sup>1</sup> HIROKI HASEGAWA, SEIJI ISHIGURO, National Institute for Fusion Science — Recently it has been observed that filamentary coherent structures are formed intermittently and propagate from the edge of core plasma to the first wall in scrape-off layer (SOL) of magnetic confinement fusion devices. Such structures are called “blobs” and are believed to transport plasma particles and heat flux into the far SOL across magnetic field lines. Many authors have studied dynamics of blobs on the basis of two-dimensional reduced fluid models. In such kind of macroscopic model, however, kinetic effects, such as sheath formation between plasma and divertor plate and velocity difference between ions and electrons, are treated under some assumptions and parameterization. Thus, in this study, we investigate microscopic dynamics of blobs with a three dimensional electrostatic plasma particle simulation. In the simulation, we have found the spontaneous electric current system in a blob. Further, the current shear is formed. In this paper, the investigation into the effect of this current shear will be reported.

<sup>1</sup>Supported by National Institute for Fusion Science (NIFS) Collaboration Research programs (NIFS11KNSS021 and NIFS11KNXN224) and a Grant-in-Aid for Scientific Research from Japan Society for the Promotion of Science (KAKENHI 23740411).

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Date submitted: 23 Jul 2012

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