

Abstract Submitted  
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**KInetic Effect on Dynamics of Plasma Coherent Structures<sup>1</sup>** SEIJI ISHIGURO, HIROKI HASEGAWA, National Institute for Fusion Science — Kinetic effects on plasma blob dynamics have been studied by means of a three dimensional electrostatic plasma particle simulation code with particle absorbing boundaries. In the particle simulation, an external magnetic field  $B$  is pointing into the  $z$  direction (corresponding to the toroidal direction). The strength of magnetic field increases in the positive  $x$  direction (corresponding to the counter radial direction), i.e.,  $\partial B/\partial x > 0$ . A coherent structure is initially set as a column along the external magnetic field and propagates in the  $-x$  direction. In this study, we have investigated the dependence of blob propagation on the ion-to-electron temperature ratio and the magnetic field strength. When the magnetic field strength is decreased (or the ion-to-electron temperature ratio is increased), we have found that the symmetry breaking in a blob profile occurs. This fact is thought to indicate that the effect of gyro motion of plasma particles induces the symmetry breaking.

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