

## Rebound of BBF and vortical plasma motion in the near-Earth plasma sheet

KONDOH, Koji<sup>1\*</sup>

<sup>1</sup>Research Center for Space and Cosmic Evolution, Ehime University

Magnetic reconnection in the near-Earth plasma sheet plays an important part in the geo-magnetospheric substorm. Then it is important to understand the plasma phenomena in this region associated with magnetic reconnection. Recent multi-satellite observations revealed that the interaction of a BBF in the plasma sheet with dipolar field lines of the Earth's magnetic field would result in formation of plasma vortices. In this study, we revealed the requirements, the region and the process of the development of the vortex using three dimensional MHD simulations on the basis of spontaneous fast magnetic reconnection model.

Keywords: MHD simulation, magnetic reconnection, near-Earth plasma sheet, vortical plasma motion, bursty bulk flow