

## Computer Simulation of the Magnetic Reconnection Process with 3-D Electromagnetic Hybrid Code

# Masaki Nishino[1], Shinobu Machida[2], Hironori Shimazu[3], Kazunari Shibata[4]

[1] Dept. of Geophysics, Kyoto Univ., [2] Dept. of Geophys., Kyoto Univ., [3] Comm. Res. Lab., [4] Kazan Astron. Obs., Kyoto Univ.

We examine the cause of the asymmetric structure which is formed associated with the magnetic reconnection at NENL, employing the 3-D electromagnetic hybrid code.

Compared with tailward flows, earthward flows have small scales in both density and velocity, and are mainly composed of the field-aligned component in the plasma sheet boundary.

The initial magnetic fields are set to the Harris solution with earth dipole fields, and we realized the magnetic reconnection by assuming the magnetic diffusion region at the center of the simulation system.

We examine the cause of the asymmetric structure which is formed associated with the magnetic reconnection at NENL, employing the 3-D electromagnetic hybrid code.

Compared with tailward flows, earthward flows have small scales in both density and velocity, and are mainly composed of the field-aligned component in the plasma sheet boundary.

The initial magnetic fields are set to the Harris solution with earth dipole fields, and we realized the magnetic reconnection by assuming the magnetic diffusion region at the center of the simulation system.