

A Simulation Study of Electron Acceleration Mechanism in Magnetic Reconnection Region

Yoshiharu Omura[1], Teruya Yamamoto[2], Hideyuki Usui[2], Hiroshi Matsumoto[1]

[1] RASC, Kyoto Univ., [2] RASC, Kyoto Univ

<http://www.kurasc.kyoto-u.ac.jp/~omura/>

We performed a simulation of magnetic reconnection process using a two-dimensional electromagnetic particle code. We observed inflow and outflow of electrons around the X-point during the process of magnetic reconnection. These electrons are accelerated by two different mechanisms, and they can generate electrostatic waves that propagate along the magnetic field.