

S001-32

A 会場 : 11/5 PM1 (13:45-15:30)

15:00~15:15

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## **Mass ratio dependence of microinstability in a magnetic island formed through magnetic reconnection**

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Magnetic reconnection is known as an explosive event through which magnetic energy is rapidly converted into the kinetic energy of a plasma. It occurs when anti-parallel magnetic field configuration accompanying a current sheet is realized. When there are two X-lines, a magnetic island is formed so that the particles accelerated near the X-lines are trapped in it. It is known that the accelerated particles drive instabilities inside a magnetic island leading to further acceleration and/or heating. Electron Weibel instability was discussed in Lu et al. (2011) as a mechanism of an instability seen inside a magnetic island in their simulation. However, parameter dependence of the instability has not been studied so far. We investigate the nature of instabilities in a magnetic island especially focusing on ion to electron mass ratio dependence by performing two-dimensional particle-in-cell simulations.