

R006-25

A 会場 : 11/27 PM1 (13:15-15:15)

14:00~14:15

#小池 春人¹⁾, 田口 聡¹⁾

¹⁾ 京大理

Ion heating asymmetry between the tailward and earthward sides of lobe reconnection X-line

#Haruto Koike¹⁾, Satoshi Taguchi¹⁾

¹⁾Department of Geophysics, Graduate School of Science, Kyoto University

For the northward interplanetary magnetic field, reconnection can occur at high latitudes of the Earth's magnetopause, where the earthward outflow jet from the reconnection X-line has an antiparallel component to the tailward magnetosheath flow, while the tailward outflow jet has a parallel component to the magnetosheath flow. Recent simulation studies suggest that the Hall electric field exhibits a turbulent structure on the earthward side where counterstreaming ion distributions are formed, leading to efficient ion heating there. In this study, we investigate the kinetic effects of the counterstreaming ions in the reconnection outflow jets using data from the Cluster satellites observing high-latitude lobe reconnection regions. We performed a statistical analysis of lobe reconnection events where Cluster detected both tailward and earthward outflow jets, and examined how the increase in ion temperature depends on the inflow conditions. Our results indicate that ion heating is more pronounced on the earthward side of the reconnection X-line than on the tailward side. We will discuss the possible mechanisms of the ion heating, focusing on turbulent electric field generation.