

R006-31

B会場：11/27 PM1 (13:45-15:45)

15:00~15:15:00

#竹内 亘平¹⁾, 浅村 和史²⁾, 横田 勝一郎³⁾, 三好 由純¹⁾

(¹ 名古屋大学 ISEE, (² 宇宙航空研究開発機構, (³ 大阪大学

Development of ion energy-mass spectrometer “ULTIMA” for suprathermal ion observations.

#Kohei Takeuchi¹⁾, Kazushi ASAMURA²⁾, Shoichiro YOKOTA³⁾, Yoshizumi MIYOSHI¹⁾

(¹Institute for Space-Earth Environmental Research, Nagoya University, (²Japan Aerospace Exploration Agency, (³Osaka University

In the Earth's magnetosphere, ions of both solar wind origin and ionospheric origin coexist. Ionospheric ions such as N⁺, O⁺, and molecular ions have energies of about 0.1 eV in the ionosphere and are accelerated to several tens of eV before escaping into the magnetosphere. However, the mechanism responsible for this acceleration remains unclear. To clarify this mechanism, we are developing a new ion energy-mass spectrometer “ULTIMA(Ultra Low energy Thermal Ion Mass Spectrometer Analyzer)”. With this instrument, we aim to investigate variations in the ion distribution functions associated with ion heating at ionospheric altitudes and to analyze the interactions between ions and plasma waves. The instrument mainly consists of two components: an electrostatic energy-per-charge analyzer and a mass analyzer. For the mass analyzer, we employ a Time-of-Flight (TOF) method with a Linear Electric Field (LEF) system, enabling the high mass resolution necessary to distinguish N⁺ from O⁺. We are currently conducting performance evaluation tests of the mass analyzer using the engineering model. We report on the results of laboratory beam experiments.