

## R005-P04

ポスター 3 : 11/6 AM1/AM2 (9:00-12:30)

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### Supra-thermal ions observed by TSA/IMS onboard the SS520-3 sounding rocket

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On November 4th, 2021, the SS520-3 sounding rocket was launched from Ny Alesund, Spitsbergen, Norway during a severe geomagnetic storm. The main objective of the SS520-3 mission is to reveal ion acceleration mechanisms as a source of ion outflow in the magnetospheric cusp region. It was confirmed that the rocket passed through the cusp region based on the observations of low-energy ions. Two ion energy-mass spectrometers were installed onboard SS520-3. One is Thermal and Supra-thermal ion energy-mass Analyzer (TSA), and the other is low-energy Ion energy-Mass Spectrometer (IMS). These two instruments jointly observe ions with energies from  $<1\text{eV/q}$  up to  $20\text{keV/q}$  with species identification, which covers higher-energy component of accelerated ions in the polar ionosphere. During the flight, TSA/IMS successfully observed cusp ion precipitations which are continuously detected. On the other hand, upgoing ion flux were minor, but weak flux enhancement was observed with energies from 1 to  $10\text{keV/q}$  in perpendicular direction throughout the flight. It might be an indication of the upflowing ions, since they are considered to be accelerated in the perpendicular direction by wave-particle interactions. We will report on the observations and the initial results regarding TSA/IMS.