

Solar Wind Ions observed in the mid-altitude polar ionosphere by AKEBONO

Eiichi Sagawa[1], Shigeto Watanabe[2], Manabu Yamada[3]

[1] CRL, [2] Earth and Planetary Sci., Hokkaido Univ., [3] Earth and Planetary Sci., Hokkaido Univ

The Supratherma Ion Mass Spectrometer (SMS) onboard the AKEBONO satellite occasionally observed a broad mass peak around $\text{amu}/q \sim 2$ in the observed mass spectra. Because spectral widths of this type of events are much wider than that of the instrument, and events are observed near the polar cusp region, ions which have high charge state, such as oxygen and iron ions, are possible candidate for these events. The high charge state ions are commonly observed in the solar wind, these observation suggests direct entry of solar wind plasma into the mid-altitude polar ionosphere. In this study, we examine entire AKEBONO observations starting 1989. Initial results of this statistical survey indicate that the strong events are clearly confined near the cusp region.