[EE] Evening Poster | P (Space and Planetary Sciences) | P-EM Solar-Terrestrial Sciences, Space Electromagnetism & Space Environment

[P-EM15]Dynamics in magnetosphere and ionosphere

convener:Yoshimasa Tanaka(National Institute of Polar Research), Tomoaki Hori(Institute for Space-Earth Environmental Research, Nagoya University), Aoi Nakamizo(情報通信研究機構　電磁波研究所, 共同), Mitsunori Ozaki(Faculty of Electrical and Computer Engineering, Institute of Science and Engineering, Kanazawa University)

Mon. May 21, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

This session provides an opportunity to present recent results from satellite and ground-based observations and theoretical and simulation studies on the magnetosphere, ionosphere, and their coupling system. We invite contributions dealing with various phenomena related to the magnetosphere-ionosphere system: solar wind-magnetosphere interaction, magnetosphere-ionosphere convection, field-aligned current, magnetic storms/substorms, neutral-plasma interaction, ionospheric ion inflow and outflow, aurora phenomena, and so forth. Discussions on planetary and satellite ionosphere and magnetospheres, future missions and instrument developments are also welcome.

[PEM15-P05]Spatial structures of polar rain during the period of poleward moving cusp auroras

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Keywords:Polar cap, cusp, aurora, electron precipitation

Polar rain electron energy fluxes are usually very small and spatially uniform. Recent studies have shown that the short scale (approximately 140 km) modulation can occur in the polar rain electron energy flux, and that this modulation might be caused by flux transfer events. In this study, using simultaneous observations of poleward moving 630-nm cusp auroras from an all-sky imager at Longyearbyen, Svalbard, and precipitating electrons from the DMSP spacecraft, which traverse the dayside polar cap from the duskside to the dawnside, we examined spatial structures of polar rain electron precipitation during the period of poleward moving cusp auroras. Results of analyses of the DMSP precipitating electron data show that in addition to the above scale the energy flux of polar rain has smaller-scale structures. We discuss relationships of those scales to the electron precipitation producing the poleward moving cusp auroras.