R005-P17
ポスター 3 ：11/25　PM1/PM2 （13:15-18:15）

#木之下 隆弘 [1)], 田口 聡 [1)], 小池 春人 [1)]
([1] 京大理

Spatial-scale dependence of temporal variability in the mesoscale plasma flow in the high-latitude ionosphere

#Takahiro Kinoshita[1)], Satoshi Taguchi[1)], Haruto Koike[1)]
([1]Department of Geophysics, Graduate School of Science, Kyoto University

Plasma convection occurring in the high-latitude ionosphere is thought to be largely determined by the solar wind and magnetospheric conditions for large-scale structures with latitudinal spatial scales exceeding a few hundred kilometers. It is also widely accepted that for small-scale structures, such as those below about 10 km, the variability in the plasma flow is associated with Alfven waves propagating along the magnetic field line. The motivation for this study is to understand what unique properties exist in the mesoscale plasma convection, which is an intermediate scale between the two above-mentioned scales, independent of control by external variables such as IMF and of occurrence of the Alfven wave variations. In this study we focus on mesoscale plasma flow structures with latitudinal spatial scales from 20 km to 250 km, and identify the spatial scale dependent properties in the temporal variability of the mesoscale plasma flow. We analyzed ion drift data from the SWARM satellites, and examined in detail the data obtained during the period when the two of the SWARM satellites were flying in nearly identical orbits with a time difference ranging from about 20 s to 100 s. The mesoscale plasma flow with spatial scales from 20 km to 250 km were classified into three groups depending on the spatial scale. The results obtained for the mesoscale plasma flow in dayside local time are presented to clarify how the characteristic quantities of the time variability of the plasma flow differ between the three mesoscales.