

**R006-27**

**Zoom meeting B : 11/2 AM1 (9:00-10:30)**

**9:45~10:00**

## **サブオーロラ帯における7つのPWING地上観測点を用いたPc1地磁気脈動の経度拡がりの統計解析**

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## **Statistical study of longitudinal extent of Pc1 pulsations using seven PWING ground stations at subauroral latitudes**

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Pc1 geomagnetic pulsations correspond to electromagnetic ion cyclotron (EMIC) waves in the magnetosphere and are excited sporadically in the magnetospheric equatorial plane in a frequency range of 0.2-5 Hz. The instantaneous longitudinal extent of the Pc1 waves on the ground has not been estimated yet. In this study, we analyze Pc1 pulsations observed at seven ground stations that distribute longitudinally at subauroral latitudes (~60 degree magnetic latitudes (GMLAT)), using data for one year from July 2018 to June 2019. The hourly occurrence rates of Pc1 pulsations at all 7 stations have a peak (14-39.6 %) in the post-noon sector and a local minimum (4.1-8.1 %) at midnight. The average frequencies become highest (0.6-1.1 Hz) after midnight and lowest (0.3-0.5 Hz) after noon at all 7 stations. It was observed that Pc1 pulsation frequency tends to increase as the GMLAT of these 7 stations becomes high. Based on these observations, we obtained a peak of probability distribution of the instantaneous Pc1 longitudinal extent as ~82.5 degree with a half maximum at ~114 degree. Since this probability distribution can be affected by the spatial distribution of limited number of the stations, we also made model calculations on the observable longitudinal extent using artificial Pc1 waves with a given extent centered at random longitude. The calculation was repeated by changing the extent of the artificial Pc1 waves. Comparison of these model calculation results with the present observations reveals that the typical instantaneous longitudinal extent of the Pc1 waves is 109 degree.