

## れいめい衛星 - 地上カメラ、EISCAT レーダーによるオーロラ微細蛇行構造の同時観測

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### Simultaneous observations of a fine-scale meandering auroral structure by REIMEI satellite, ground-based camera, and EISCAT radar

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It is well known based on many previous studies that the aurora phenomena are caused by precipitating charged particles accelerated in the magnetosphere. While ground-based observations indicate that the aurora is often consists of fine-scale structures showing rapid time variation, where and how the fine structures of the particle precipitation as well as auroral emissions are created is far from well understood due to the lack of simultaneous observations of global and local auroral emissions, and precipitating particles with enough time and spatial resolution.

In this study, we report on the simultaneous observations of auroral emissions from the REIMEI satellite and ground-based NIPR all-sky camera (ASC) together with the electron precipitation both by REIMEI and EISCAT radar. The REIMEI satellite is launched in August 2005 aiming at the simultaneous observations of emissions and particles of auroral fine-scale structures. The EISCAT and ASC ground-based observation data was taken in Tromso (69deg.35'N, 19deg.14'E). During EISCAT-REIMEI campaign observations on Nov 24, 2006, REIMEI observed characteristic meandering structure in auroral emissions together with energy variation of precipitation electrons around 01:08:45 UT. During the same time, NIPR ASC observed the similar meandering structures moving westward. Detailed investigation of relation between variations of the auroral emission and distribution function of electrons will be reported.