

Precipitating electrons and auroral emissions in the PSBL region

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Multiple energy-time dispersions of precipitating electrons are often observed in the PSBL region at low-altitude. In this region, electric / magnetic perturbations, which are considered to be related to Alfvén waves, are also observed. Poynting fluxes of these perturbations are Earthward. Based on conjunction observations with FAST and POLAR spacecraft, field-aligned electron accelerations between POLAR and FAST due to wave activities are suggested.

These precipitating electrons are observed by Reimei satellite. Auroral images corresponding to the time-dispersive electrons in the PSBL region are investigated with imagers (MAC) onboard Reimei. The auroral structures are thin arc or multiple-ray like, and drifting to arc-aligned direction.

Relationship between the time-dispersive electrons and auroral activities in the PSBL region will be discussed.