

R006-23

A 会場 : 11/7 AM1 (9:00-10:30)

09:15~09:30

あらせ衛星の観測による放射線帯、プラズマ圏の長期変動

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Long-term variations of relativistic electrons of the outer radiation belt, plasma sheet electrons and plasmasphere

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The Arase satellite has observed the inner magnetosphere since 2017 and provided long-term observation data about plasma/particles and field/waves, which covers the declining phase of the solar cycle 24 and the following early rising phase of the cycle 25. We investigate spatio-temporal variations in the phase space density that indicate evolution of the acceleration region for energetic electrons. For several magnetic storms, glowing peaks of the phase space density are found during the recovery phase and this fact indicates that the local acceleration processes work for the large flux enhancement of the outer belt electrons. In addition, we find that the location of the glowing peaks in the phase space density varies with the plasmopause location as well as the inner edge of the plasma sheet electrons. This result is consistent with the cross-energy coupling processes driven by wave-particle interactions in which the electron acceleration driven by whistler mode waves is regulated by the ratio of the plasma frequency (fp) and cyclotron frequency (fc) as well as the source electrons for the wave generation.