R006-22
Zoom meeting B ：11/1 PM2 (15:45-18:15)
17:15〜17:30

Statistical study about pitch angle evolutions of sub-relativistic/relativistic electrons of the outer radiation belt

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The Arase/HEP instrument has observed energetic electrons of the outer radiation belt since March 2017. The Arase satellite has observed more than 20 geomagnetic CIR-driven storms with Dst <-30 nT. We conduct a superposed epoch analysis of the pitch angle and energy spectrum variations of sub-relativistic/relativistic electrons during different storm phases. During the storm main phase, sub-relativistic electron flux increases at L∗=3.5 - 6.0. During the early recovery phase, relativistic electron flux gradually increases in the outer belt. The strong pancake distributions are observed associated with the flux enhancements. Later, the pitch angle distribution becomes isotropic, suggesting that the wave-particle interactions cause the pitch angle scattering. In this presentation, we show the average variations of the pitch angle distribution and discuss possible acceleration mechanisms to cause variations of the pitch angle distribution and energy spectrum.