

SI 時におけるピッチ角散乱による昼側高エネルギー降下電子について

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Dayside energetic electron precipitation through pitch-angle scattering associated with sudden impulses

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We examine the spatiotemporal evolution of Cosmic Noise Absorption (CNA) and VLF emissions observed at Syowa Station (-69.00 S, 39.58 E, and L = 6.1) in Antarctica, and the electron temperature anisotropies obtained from the Los Alamos National Laboratory (LANL) geosynchronous orbiting satellites associated with sudden impulses. Enhancements of temperature anisotropy, VLF intensity measured on the ground, and CNA are observed to be associated with the sudden impulses, caused by increases in solar wind dynamic pressure. The enhanced region is limited to the noon side, and the typical duration of the enhancements is tens of minutes. The results indicate that the compression of the dayside magnetosphere due to the enhancement of the solar wind dynamic pressure cause the enhancement of temperature anisotropy of hot electrons in the dayside and the enhanced whistler mode waves cause pitch angle scattering of energetic electrons into the atmosphere. We will discuss the possibility of dayside energetic electron precipitation through pitch-angle scattering.