

R006-26

Zoom meeting B : 11/2 AM1 (9:00-10:30)

10:00-10:15

Ultra low frequency wave index in the inner magnetosphere derived from Arase and RBSP satellites

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Ultra-low frequency (ULF) wave indices characterize the level of the geomagnetic fields. They are derived from the amplitude of the magnetic field distributions with time periods of 2-8 min, using either ground-based measurements at high latitudes or data from satellites in geosynchronous orbits. The ULF wave indices thus formulated are correlated with the energetic electron flux enhancements in the radiation belt [Kozyeva et al., 2007; Romanova et al., 2007; Romanova and Pilipenko, 2009].

In this study, we derived the ULF wave indices for different L-shells in the inner magnetosphere (where, $L < 8$), using the magnetic field data obtained from the Arase and RBSP satellites, in the toroidal as well as poloidal modes. We then compared them with the energetic electron flux in the radiation belts, the solar wind parameters, and the geomagnetic indices, which is followed by a discussion on the possible applications of the index.