

ERG衛星の高エネルギー電子観測器に観測される準周期的なフラックス変動について

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Quasiperiodic modulations of energetic electron fluxes in the ULF range observed by the ERG satellite.

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Exploration of energization and Radiation in Geospace (ERG) satellite was successfully launched on December 20, 2016. The Extremely High-Energy Electron Experiment (XEP) and High-Energy Electron Experiments (HEP-L and HEP-H) are carried by the ERG satellite to observe energetic electrons. These instruments frequently observed quasiperiodic modulations of energetic electron fluxes with period of ~100-600 sec. Continuous flux modulations with the period of ~600 s appeared in the 700keV-3.6MeV energy range during the period 0920UT-1120UT on March 31, 2017 when the ERG satellite was located at L~5.5-6.1 and MLT~3-4 h. We compare these flux modulations with the magnetic field observed by the Magnetic Field Experiment (MGF) on the ERG satellite. It is found that these flux modulations are not accompanied by corresponding magnetic signatures. It indicates that these quasiperiodic flux modulations are not caused by drift-resonant interactions between ULF waves and energetic electrons, at least locally. In this study, we will show several events and discuss possible mechanism for quasiperiodic flux modulations of energetic electrons on XEP and HEP.