



Periodic narrowband continuum oscillations

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Non-Thermal Continuum (NTC) radiation is believed to be emitted from sources located in the vicinity of the plasmopause region. Cluster orbit is well adapted to study the NTC radiations near their sources. The two main purposes of the WHISPER experiment are to record the natural waves in the bandwidth 2-83 kHz and to make a diagnostic of the electron density using the sounding technique. The various working modes and the Fourier transforms calculated on board provide a good time and frequency resolution and allow us to detect the fine structure of NTC emissions as well as their spectral characteristics in relation to the local plasma regime (gyro-frequency f_{ce} and plasma frequency f_{pe}).

On August, 14, 2003, Cluster observes NTC radiation in the plasmopause vicinity, hence near the source region. A series of distinct and oscillating NTC narrowbands are observed covering a 25 kHz frequency range above the local plasma frequency. These bands are parallel, very close in frequency and oscillate with a precise period. Some periodic oscillations are also observed in the local DC magnetic field vector, not necessarily exactly at the same time. These oscillations suggest a global oscillation of the magnetosphere (Sauvaud et al., JGR, 1999, Kivelson et al., JGR, 1984). We compare in this paper oscillations observed respectively by the FGM and WHISPER instruments and discuss a possible scenario linking both phenomena. Such study can yield useful information toward identifying the NTC generation mechanism.