



Contribution ID: 57

Type: Oral Presentation

An investigation of the presence of Pc5 oscillations during a TRINNI event

Tuesday, 26 June 2018 12:00 (20 minutes)

Pc5 ULF pulsations are magnetohydrodynamic (MHD) events in the magnetosphere. To identify the causes of Pc5 ULF pulsations has been a challenging matter in the field of MHD through the complexity of the nature of the magnetosphere. Flow bursts in the magnetotail are known as TRINNI's short for "tail reconnection during IMF northward, non-substorm intervals. In this study we used the SuperDARN to observe the convection maps with the cross polar cap potential (CPCP) and the Greenland magnetometer stations to investigate the presence of Pc5 pulsations during a TRINNI event which occurred on 20 March 2002 (01:00-12:00 UT). These two instruments measure the resonance from the cavities within the magnetosphere during quiet time magnetosphere. We employed the Fast Fourier Transform (FFT) method to compute the power spectrum. The spectral analysis has shown that there are possible pulsations associated with this TRINNI event. We present results in a graphical form and discuss them in relation to magnetic reconnection in the magnetotail and in the context of magnetohydrodynamic (MHD) theory of magnetic pulsations.

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Session Classification: Space Science

Track Classification: Track D2 - Space Science