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カナダ・アサバスカでのLF帯電波観測による高エネルギー電子降下現象観測：初期観測結果
LF radio observation of storm-time energetic electron precipitation at Athabasca: Initial result

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Low frequency (LF) radio observation system has been installed in Athabasca, Canada at Oct. 2010. Purpose of the observation is to investigate energetic electron precipitation from outer radiation belts to the atmosphere in the sub-auroral latitude region during magnetic storms and substorms. In this paper, some initial results will be presented. LF transmitter signal perturbation is caused by ionization of lower edge of the ionosphere and sensitive to higher energy electron (>100keV) precipitation than riometer observations. In 2011, the electron precipitation signatures were detected during the main and early recovery phases in several magnetic storms. During the night time, fluctuations in the LF phase data with the time scale of Pc5 or longer were found. Comparison of the phase fluctuation with the GOES magnetic field data during a small magnetic storm on 5 June 2011 shows significant correlation, which implies the drift resonance of energetic electrons and/or Pc5 modulation of energetic electron scattering efficiency in the inner magnetosphere.