**R006-43**
**A 会場 ：9/27　PM1 （13:45-15:30）**
**14:30〜14:45**

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# Wave amplitude dependence of energetic electron precipitation associated with pulsating aurora: Test-particle simulations

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Pulsating aurora is a kind of diffuse aurora with pulsation of a few Hz. The optical emission of pulsating aurora is due to intermittent electron precipitation into the atmosphere from the outer radiation belt of the earth's magnetosphere. Whistler mode chorus waves generated in the magnetosphere are a plausible candidate to scatter the trapped radiation belt electrons into the loss cone.

In this study, test-particle simulations by GEMSIS-RBW are carried out to study the influence of large amplitude whistler chorus mode waves on energetic electrons precipitation. The simulations show that the electron flux close to the loss cone are reduced by the scattering when the whistler mode chorus waves nonlinearly trap the electrons close to the loss cone. On the other hand, nonlinear dislocation process scatters electrons into loss cone from the pitch angle away from it. The parameter study as a function of the wave amplitude indicates that the nonlinear scattering process has an important role for the suppression of the electron precipitation. The amount of electron precipitation flux is not a linear function of the wave amplitude of whistler mode chorus waves. The high amplitude whistler mode chorus waves could influence on the energetic electron precipitation associated with the emission of pulsating aurora.