# 太陽風流れの接触面通過時の内部磁気圏ホイッスラーモード波動の変化について

# 三好 由純 [1]; 片岡 龍峰 [2]; 笠原 禎也 [3]
[1] 名大 STE 研; [2] 理研; [3] 金沢大

# Whistler mode chorus activities in the outer radiation belt associated with stream interface crossings

# Yoshizumi Miyoshi[1]; Ryuho Kataoka[2]; Yoshiya Kasahara[3]
[1] STEL, Nagoya Univ.; [2] RIKEN; [3] Kanazawa Univ.

Whistler mode chorus waves play an essential role for relativistic electron acceleration occurred at the outer radiation belt. Here we perform a superposed epoch analysis of the chorus wave activities associated with stream interface crossings. To investigate the chorus wave activities, we use the VLF wave amplitudes in the frequency range from 0.1 fce to 0.5 fce as measured by Akebono satellite. Also, the 30 keV electron flux as measured by the POES satellite is used to investigate the particle injection activities at the same time. Further, the spring-toward fall-away (STFA) rule is applied to discriminate the average interplanetary magnetic field (IMF) shifted to southward or northward directions. It is found that the STFA rule controls the chorus wave activity as follows. Continuous injections of hot electrons from the plasma sheet are observed during southward IMF streams, and the chorus wave activities are enhanced at the outer radiation belt for a few days after the stream interface crossing. On the other hand, chorus wave activities are relatively weak during northward IMF streams. That is, HILDCAA (High Intensity Long Duration Continuous AE Activity) occur in the magnetosphere during southward IMF streams, and the HILDCAA produces continuous injections of hot plasma sheet electrons that are free energy for generating the chorus waves. The enhanced activities of chorus waves during southward IMF streams are associated with the relativistic electron flux enhancement in the outer belt. The obtained results are, therefore, consistent with a model of non-adiabatic acceleration of relativistic electrons, although comparison with ULF wave activities is necessary to conclude the dominant acceleration process for the outer belt flux enhancements.