

## Characteristic velocity distributions in the low-latitude boundary layer: An implication for its formation mechanism

# Hiroshi Hasegawa[1], Kiyoshi Maezawa[2], Yoshifumi Saito[1], Toshifumi Mukai[1], Koichiro Tsuruda[1], Keigo Ishisaka[3], Hiroshi Matsumoto[4]

[1] ISAS, [2] Dept of Physics, Nagoya Univ, [3] Electronics and Informatics, Toyama Pref. Univ., [4] RASC, Kyoto Univ.

The low-latitude boundary layer (LLBL), where the solar-wind like plasma coexists with hot plasmas of the magnetospheric origin, is observed inside the magnetopause and often extends from the subsolar region to the magnetotail. Its formation mechanism, particularly for northward IMF condition, is still an unresolved problem of the magnetospheric physics.

We investigate ion and electron distribution functions for the dayside to flank LLBL with GEOTAIL observations, and discuss whether or not certain models which invoke magnetic reconnection as the formation mechanism can efficiently produce the LLBL as observed.