Cusp-latitude radio wave absorption during northward IMF: A characteristic response to specific IMF excursions

Masanori Nishino [1], Nozomu Nishitani [2], Hisao Yamagishi [3], Natsuo Sato [4]

[1] STE Lab. Nagoya Univ, [2] STELAB, Nagoya Univ., [3] Upper Atmos. Phys., Natl. Inst. Polar Res., [4] NIPR

An example of cusp-latitude radio wave absorption at 30 MHz observed by the imaging riometer (IRIS) at Ny-Alesund (75.7 MLAT) is presented. The absorption event observed in the magnetic prenoon on February 28, 1996 was associated with northward interplanetary magnetic field (IMF). A characteristic absorption is a "rectified response" to northward/southward excursions during the northward IMF. This absorption was observed dominantly at the southern region of the IRIS field, and the response occurred as the crossover angle of -45 degree (northward and dawnward plane) in IMF clock angles. The response is discussed with regards to electrodynamics in the dayside magnetosphere and ionosphere.