Comparison of EMIC waves simultaneously observed on the ground and a THEMIS satellite; A case study

Kaori Sakaguchi[1]; Kazuo Shiokawa[1]; Yoshizumi Miyoshi[2]; Vassilis Angelopoulos[3]; Charles W. Carlson[3]; James P. McFadden[3]

[1] STELAB, Nagoya Univ.; [2] STEL, Nagoya Univ.; [3] SSL, UC Berkeley

Electromagnetic ion cyclotron (EMIC) waves are considered to be generated due to temperature anisotropy of ring current ions in the vicinity of the plasmapause, propagate along the magnetic field line, and be detected as Pc 1 geomagnetic pulsations on the ground. However, there have been few reports of simultaneous observation on the ground and in the magnetosphere near the source region of waves with good conjunctions. We found an event of Pc 1/EMIC waves, which were observed at the same time of 0330-0430 UT (2030-2130 LT) on May 8, 2007, both at the Athabasca station (L=4.2), Canada, and by the THEMIS C satellite with fast survey mode at the magnetic equator at ˜5.2 Re. In the presentation, we show comparisons of magnetic field spectra observed on the ground and in the inner magnetosphere near the equatorial plane. We also show the particle data obtained by the ESA and SST instruments onboard THEMIS C at the time of the satellite crossing the region of the EMIC wave generation.

We add Dr. M. Connors, Dr. A. Roux, and Dr. D. Larson as coauthors of this paper.