

## Characteristics of the night-side DP-2 type fluctuations observed by MAGDAS/CPMN

# Akihiro Ikeda[1]; Kiyohumi Yumoto[2]; Teiji Uozumi[3]; Shuji Abe[1]; Manabu Shinohara[4]; Kenro Nozaki[5]; Akimasa Yoshikawa[6]; Boris M. Shevtsov[7]; Vasily V. Bychkov[8]; Quirino Sugon[9]; Daniel McNamara[10]; Yumoto Kiyohumi  
MAGDAS/CPMN Group[11]

[1] SERC, Kyushu Univ.; [2] SERC, Kyushu Univ.; [3] SERC, Kyushu Univ.; [4] Kagoshima National College of Technology;  
[5] NICT; [6] Dept. of Earth and Planetary Sci., Kyushu Univ.; [7] IKIR, FEB, RAS; [8] IKIR, FEB, RAS; [9] Manila  
Observatory,Phils.; [10] Manila Observatory,Phils.; [11] -

DP-2 type fluctuations caused by IMF southward/northward variations have important information about how the solar wind effects are transferred into the magnetosphere, ionosphere, and on the ground. Since dayside ground magnetic field variations are significantly enhanced during DP-2 events, dayside DP-2 fluctuations have been investigated for many years. However night-side DP-2 variations are not yet investigated sufficiently.

In this study, we examined night-side magnetic and electric field variations when DP-2 was observed in dayside. Ground data from MAGDAS/CPMN (MAGnetic Data Acquisition System and Circum-pan Pacific Magnetometer Network) stations were analyzed. We also investigated the association of DP-2 with the ionospheric electric fields obtained by the FM-CW (Frequency Modulated Continuous Wave) radar at PTK (M.Lat. = 45.8 degree, M.Lon.= 221.6 degree) and solar wind parameters from the ACE satellite.

The amplitudes of night-side DP-2 on 11 Oct., 2008 became greater with increasing of the latitude of 210 MM stations. While there were no Pi 2 pulsations, and signatures of substorms were not detected with the DP 2. At the time, westward electric field was observed by the FM-CW radar in the night-side sector simultaneously with the positive variation of night-side ground magnetic fields. Therefore the night-side DP-2 magnetic fluctuation is found not to be caused by the ionospheric currents.