

## Analytic representation for quiet daily geomagnetic variations at the 210MM CPMN stations

# Yosuke Yamazaki[1]; Kiyohumi Yumoto[2]; Teiji Uozumi[3]; Akimasa Yoshikawa[1]; Yoshihiro Kakinami[4]  
[1] Earth and Planetary Sci., Kyushu Univ.; [2] Space Environ. Res. Center, Kyushu Univ.; [3] SERC; [4] ISS/NCU

Analytic representation for quiet geomagnetic field variations have been constructed based on the least-square fitting of geomagnetic data, as functions of the day number (DOY), lunar age (LA), local time (LT) and solar activity (SA). The data was obtained from 19 stations along 210 magnetic meridian of the Circum Pan-pacific Magnetometer Network during 1996-2007 ( $K_p \geq 4$ ). The analytic representation well agrees with the observation (mean error is about 20% of the daily variations range). We examined the residual difference between the observation and analytic representation to find any additional current system superimposed on the normal S and L current system. The obtained current system for the residual difference sometimes shows very systematic global vortex pattern. We will discuss possible explanations for the additional current systems.