

Magnetospheric dynamics and polar phenomena for the dipole tilt

Kyungsun Park[1], Takayuki Yamatou[2], Tatsuki Ogino[3]

[1] STE Lab, Nagoya Univ, [2] STEL, [3] STEL, Nagoya Univ.

<http://stesun8.stelab.nagoya-u.ac.jp/~sun/>

A three-dimensional MHD simulation of interaction between the solar wind and the earth's magnetosphere has been carried out for the dipole tilt in order to study magnetospheric dynamics and polar phenomena. When the interplanetary magnetic field (IMF) turned from northward to southward or from southward to northward, we have studied what are happening in the magnetosphere for the dipole tilt and where the dayside reconnection is occurring. When the northern hemisphere is summer, the dayside reconnection occurred slightly below the magnetic equator in the case of southward IMF. We also have studied characteristics of the polar cap potential in the northern and southern hemispheres when the axis of dipole field is tilted.