

Modeling of the 2-cell potential pattern in the high-latitude ionosphere

Minako Morimoto[1]; Satoshi Taguchi[1]

[1] Univ. of Electro-Communications

Characteristics of the 2-cell potential pattern in the high-latitude ionosphere have been obtained from the statistical analysis of DE 2 electric field data, and a two-dimensional model of the potential distributions has been developed as a function of IMF and solar wind velocity. Considering that the well-known Weimer's model actually comes from the limited data sets for purely southward IMF, we have pay attention to whether our model for such IMF conditions can be reasonably extrapolated from the one for the dawnward/duskward IMF. The validity of our extrapolation method will be discussed in comparison with other previous observations and models.