Abstract

In this paper, a tentative prediction of daily geomagnetic field and storms is implanted by analyzing the International Real-Time Magnetic Observatory Network data using the artificial neural network (ANN). Solar geomagnetic storms have a big effect on plasma ionospheric disturbance, and our study intend to introduce this effect when predicting ionospheric physical response. The implanted method is based on the prediction of future geomagnetic field components using a multilayer perceptron neural network model. The input is the time, and the output is the X, Y, and Z magnetic field components. Application to geomagnetic data of May 2002 shows that the implanted ANN model can greatly help the geomagnetic storms prediction