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Geomagnetic storms prediction from InterMagnetic Observatories data using the Multilayer Perceptron neural network

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Abstract

In this paper, a tentative of geomagnetic storms prediction is implanted by analyzing the International Real-Time Magnetic Observatory Network data using the Artificial Neural Network (ANN). The implanted method is based on the prediction of future horizontal geomagnetic field component using a Multilayer Perceptron (MLP) neural network model. The input is the time and the output is the X and Y magnetic field components. Application to geomagnetic data of Mai 2002 shows that the implanted ANN model can greatly help the geomagnetic storms prediction.