عنوان مقاله:

PREDICTION OF THE EARTHQUAKE MOMENT MAGNITUDE BY USE OF THE MULTILAYER PERCEPTRON NEURAL NETWORK

محل انتشار:

هفتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1394)

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خلاصه مقاله:

Because of the major disadvantages of previous methods for calculating the magnitude of the earthquakes, the neural network as a new method is examined. In this paper a kind of neural network named Multilayer Perceptron (MLP) is used to predict moment magnitude of earthquakes. MLP neural network consist of three main layers; input layer, hidden layer and output layer. Since the best network configurations such as the best number of hidden nodes and the most appropriate training method cannot be determined in advance, and also, overtraining is possible, 32 models of network are evaluated to determine the best prediction model. By comparing the results of the current method with the real data, it can be concluded that MLP neural network has high ability in predicting the moment magnitude of earthquakes and it's a very good choice for this purpose.

کلمات کلیدی:

Multilayer Perceptron, Neural Network, Earthquake Moment Magnitude, Prediction, Training Method