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Characterization of P seismic waves arrival with simulated neural networks

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The possibility of an application of simulated neural networks for the automatic characterization of the arrival of P seismic waves from the local earthquake records has been investigated. In our study, two simulated neural networks, a neural network with radial basic functions and a neural network with sigmoid functions have been used. In the phase of characterization of P seismic wave arrival, first a record of the earthquake was converted into a characteristic data vector. Then they were converted into a vector of significance. That operation was carried out with neural networks. The values of the vector of significance characterized the arrival of seismic waves. The neural network with radial basic functions and a neural network with sigmoid functions were trained with the same set of seismic data. Results between both artificial neural networks did not differ significantly, but the neural network with radial basic functions better visualize possibility of P arrival. Using artificial neural networks gives better results than STA/LTA algorithm.