عنوان مقاله:

Discrimination Between Earthquakes and Explosions at Regional Distances Using Self-Organizing Neural Network

محل انتشار:

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خلاصه مقاله:

The recent of interest in neural networks has led to renewed research in the area of seismic signal classification problems. These classifiers frequently provide reduced error rates,compared with conventional classifiers. In this paper, the problem of discrimination between earthquakes and underground nuclear explosions is studied using Self-Organizing (SOM) neural networks. The database consists of short-period recordings of regional 26 earthquakes and 25 underground nuclear explosions at the East Kazakhstan. The SOM neural network system that was used for seismic event discrimination using Input vectors consisting of five parameters Mo (scalar seismic moment) and Ml (local magnitude) and source parameters Ω , fc, and s, have been employed for training and `classification. The main results are that the use of these parameters, along with the use of a generic nonlinear classifier (a neural network), can provide good discrimination results, especially when Conventional methods Ml: Mo is not applicable at regional distances.

کلمات کلیدی:

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