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EVALUATION OF SEISMIC HAZARDS FROM SEVERAL SEISMIC ZONES

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Abstract

The cluster analysis is proposed for seismic zoning. There are used agglomerative hierarchical and nonhierarchical *k-means* clustering methods. The probabilistic seismic hazard assessment procedure based on the four-dimensional Markovian model of a seismic regime of zones is proposed. Seismic hazard is described by the probability of earthquake occurrence of any number and intensity in the course of a given time interval in some point. It is assumed that the intensity of shakes caused with earthquake from some seismic zone has conditional normal distribution. An algorithm of assessment of the seismic hazard on a territory within the range of several seismic zones is proposed.

Key words: cluster analysis, intensity attenuation, Markov model, Neyman-Pearson lemma, PSHA

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