Probabilistic Modelling of the Seismic Hazard using the Romanian Earthquake Catalogue

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Abstract text:

The actual trend of performance based modelling of the seismic action is to adopt probabilistic models of the seismic hazard. In the first part of the paper are presented theoretical aspects of the seismic hazard definition from the probabilistic point of view as „a function $P(Y > y)$ that describes the probability that in a given region (M) and for a time interval (T), the value of a parameter, Y (for example: macroseismic intensity, acceleration, velocity and displacement of the soil) to overpass the given value (y) as an effect of a seismic event" [4]. The probabilistic study of the seismic hazard gives the possibility to implement new parameters, such as: the likeliness and the occurrence frequency of the seismic events. Nowadays most of the international standards adopted the probabilistic analysis of the seismic hazard as a complementarity of the deterministic analysis. In the second part of the paper are presented the results of the probabilistic analysis for Vrancea region using the Gumbel 1 probabilitic model that has the parameters determined throughout the extreme values statistical method.

Key Words:

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