عنوان مقاله:

Adaptive Fuzzy C-Mean Clustering of Ground Motion Prediction Equations

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خلاصه مقاله:

Selection of Ground Motion Prediction Equations (GMPEs) within the Seismic Hazard Analysis (SHA) is an important and timely research line of inquiry. A set of ۲۲ regional and worldwide GMPEs have been selected in this research for the purpose of classification. They are classified into clusters in which each cluster is defined to have the most dissimilarity with the other clusters as well as having the most similarity within the cluster. The C-mean clustering algorithm is modified and adapted in order to be applicable in the current study. In addition, six groups are defined for different focal mechanisms and soil types. Then, the GMPE clustering is performed for each group and the obtained clusters are proposed and discussed. The results confirm that the obtained spectral ordinated from GMPEs of different clusters can meaningfully differed from each other.

کلمات کلیدی:

Earthquake, GMPE, Fuzzy C-mean clustering, Un-supervised classification, Validity index, Next Generation (Attenuation (NGA