عنوان مقاله:

Application of Copula Theory to Develop Techniques for Earthquakes Forecasting

نویسندگان:

(Mostafa Allamehzadeh - *International Institute of Earthquake Engineering and Seismology (IIEES*

Mohammad Kavei - *University of Hormozgan, Bandar Abbas*

(Mehrdad Mostafazadeh - *International Institute of Earthquake Engineering and Seismology (IIEES*

خلاصه مقاله:

Recent advances made in forecasting Earthquakes using clustering analysis techniques are being run by numerical simulations. In this paper, the Gaussian Copula clustering technique is used to obtain Earthquake patterns such as the Doughnut Earthquake pattern to better predict medium and large events. Copulas methods can involve recognizing precursory seismic patterns before a large earthquake within a specific region occurs. The observed data represent seismic activities situated around IRAN in the ۱۹۸۰-۲۰۱۴ time intervals. This technique is based on applying cluster analysis of earthquake patterns to observe and synthetic seismic catalog. Earthquakes are first classified into different clusters, and then, patterns are discovered before large earthquakes via Copulas simulation. The results of the experiments show that recognition rates achieved within this system are much higher than those achieved only during the feature map is used on the seismic silence and the Doughnut pattern before large earthquakes.

کلمات کلیدی:

Pattern recognition, Copula methods, Clustering, Earthquake Forecasting

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