عنوان مقاله:
A repeated M8 algorithm and its application to the large Iranian earthquakes

محل انتشار:
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نویسنده:
Abdolreza Ghods - Institute for Advanced studies in basic sciences.Zanjan
Navid Shab Manamen - Institute of Geophysics, University of Tehran

خلاصه مقاله:
Earthquake is a non-linear phenomenon, which occur in a very unpredictable way. Despite this fact earthquake is not a random process and has systematic orders, which is reflected on the fractal behavior of its temporal, magnitude and space-distribution. The M8 algorithm is a pattern recognition algorithm for intermediate term earthquake prediction (a few weeks to a few years). Which exploits the hidden orders of seismicity flow to predict the time, location and magnitude of a future earthquake. In this work, we will show that the M8 algorithm has a significant intrinsic space uncertainty. We introduce a simple new method, the Repeated M8 or RM8 to reduce this space uncertainty. In this method the M8 algorithm is applied to a dense grid of circle of investigation and by finding the area shared by the issued TIPs a Highly probable Time of Increased probability (htip) is calculated. We show that the method significantly (up to about 4 times) reduces the space uncertainty of the M8 method. The method is applied to the retrospective prediction of 12 large worldwide earthquakes (M≥7.0 and λ=). Finally we report our forward prediction for the Iranian territory.

کلمات کلیدی:
m8 prediction algorithm, Earthquake prediction, Iranian earthquakes.

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