

عنوان مقاله:

Quantitative Analysis of Seismicity Prior to 11 August ۲۰۱۲, Mw۶.۵ Ahar-Varzeqan Earthquake, Based on Gutenberg-Richter Law

محل انتشار:

سی و نهمین کنگره ملی و چهارمین کنگره بین المللی علوم زمین (سال: 1399)

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خلاصه مقاله:

The changes of seismicity patterns before large earthquakes are result of the variation of seismic properties due to energy release and accumulation. Recognition of probabilistic patterns in susceptible future earthquake areas requires accurate and continuous monitoring on behavior of smaller events beforehand the large already occurred earthquakes. The remarkable point of these studies is discussing about plausibility of the power law models of seismicity (Gutenberg–Richter parameters) by a quantitative index like p-value. Estimation of efficient seismicity parameters and attempts to utilization of recorded data in the vicinity of the epicenter for simulating real data and determining the efficiency of models are important steps to quantitative analysis of seismicity prior to target large earthquakes. In ahead study, the adaptability of Gutenberg-Richter parameters and the plausibility of synthetic models compared with the observed seismicity before 11 August ۲۰۱۲, Mw ۶.۵, Ahar-Varzeqan earthquake is investigated. The results prove that p-value in comparison with statistical error (σ) of the b-value as a plausibility index of the power-law model will have more reliable performance. Furthermore, effectiveness of Kolmogorov- Smirnov test as a goodness of fit test was confirmed

کلمات کلیدی:

Seismicity patterns, Large earthquakes, Gutenberg-Richter law, p-value, Ahar-Varzeqan earthquake

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