

عنوان مقاله:

Preliminary Estimation of Ground Motion of September ۲۴, ۲۰۱۳, Pakistan Earthquake Using Modified Semi-Empirical Approach

محل انتشار:

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نویسندگان:

Chenna Rajaram - Assistant Professor of Civil Engineering, Rajeev Gandhi Memorial College of Engineering and Technology, Andhra Pradesh, India

Ramancharla Pradeep Kumar - Professor of Civil Engineering, Earthquake Engineering Research Centre, International Institute of Information Technology, Hyderabad, Indian

خلاصه مقاله:

Hazard plays a vital role in assessing the risk of any area. For earthquake hazard estimation, it is essential to obtain ground motion records from various seismic stations. However, it is not always easy to get ground motion data. The present study is an attempt to generate ground motions of the recent September ۲۴, ۲۰۱۳, Pakistan earthquake using modified semi-empirical approach, which is based on ω_2 model. The first part of the method considers a time series having the basic spectral shape of acceleration. The deterministic model of rupture source has been used in the second part of the method to simulate the envelope of accelerogram. For the study, a MATLAB code is written to generate synthetic accelerograms at stations Awaran, Panjgur, Tagas, Korak, and Gajar. The results are compared with GroundMotion Prediction Equation (GMPE) proposed by Ramkrishnan et al., in ۲۰۱۹ [۱]. The PGA values obtained from modified semi-empirical method gives satisfactorily good results in comparison with the PGA values from GMPE. However, slight variation is observed between synthetic accelerogram PGA values and GMPE values at Gajar, Korak, Tagas, Panjgur stations.

کلمات کلیدی:

Synthetic accelerogram, Envelope function, Attenuation relationship, Pakistan earthquake

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