

عنوان مقاله:

VERTICAL GROUND MOTION PREDICTION EQUATIONS FOR PGA AND PSA IN ALBORZ-AZERBAIJAN, IRAN

محل انتشار:

هفتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1394)

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خلاصه مقاله:

Before the current great earthquakes, the lateral loads were considered as a main reason of structural damages. So, the vertical component of earthquake was ignored in designing of most structures. The recent studies have shown that vertical component of ground motion can be an effective parameter in damage of the structures. Ground Motion Prediction Equations (GMPEs) are an essential parameter in seismic hazard analysis to obtain the spectrum which the most of them are developed for Horizontal component. In this study, we will develop a GMPE for vertical component in Alborz-Azerbaijan, Iran. It should be noted that the vertical GMPEs for spectral amplitudes have not been published in an international peer-reviewed journal for any region of Iran. In order to determine regression coefficients, we used 294 three-component records of 53 earthquakes with magnitude ranging from Mw 4.1 to Mw 7.3. Records with epicentral distances more than 300 km are omitted from the database. The coefficients for the prediction of vertical peak ground acceleration and 5% damped spectral acceleration are calculated. Eventually, the proposed model is compared with available models and it can be understood that the proposed models are in agreement with other available GMPEs proposed for Iran, Europe and Middle East and worldwide.

کلمات کلیدی:

GMPEs, Vertical Component, PGA, PSA, Iran

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