



Seismic hazard assessment of Irkutsk, Russia: calculation of synthetic accelerograms and site response analysis

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Using seismic and geoelectric studies and H/V spectral ratios geophysical profiles of the upper part of the sedimentary column for most of the seismic stations of Baikal region were obtained. These profiles allowed estimate local site effect and used to obtain the basic parameters of strong ground motions in the Baikal rift zone within the last decade, which empirically related to magnitude and distance. The average amplitude spectra of accelerations have been obtained for each source zone. The spectra have been corrected for epicentral distances and probable magnitude. These amplitude and phase spectra have been used to calculate the synthetic accelerograms of expected events in each source zone for the 1st category grounds. The intensity has been estimated from the peak accelerations. Obtained accelerograms and standard methods of seismic microzonation made possible to evaluate seismic hazard of Irkutsk.

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