Geophysical Research Abstracts, Vol. 8, 06252, 2006
SRef-ID: 1607-7962/gra/EGU06-A-06252

Local soil response applying the shake-map method for the highly

populated areas; study case for Bucharest

S. Balan, C. Cioflan and B. Apostol

National Institute of Research Development for Earth Physics, Bucharest–Magurele, Romania, (sbalan@infp.infp.ro)

Appling the shake map methodology for seismic hazard studies on a sector of Bucharest, the capital of Romania. About this region we know geological and geotechnical profiles. We choose a seismic input as of 30 August 1986, M_W = 7.1. The calculus of the seismic signal between source and base rock is based on the source characteristics of the 30.08.1986 earthquake, generating a synthetic signal from the source, which is transferred to the base rock of the different points in the studied sector of the city, using the method of summing multimodal media in semi-stratificated space. As results are presented 3 maps with accelerations: recorded during the seismic event, recordings as a result of the synthetic transfer and as the result of a Shake analysis at the surface. It can be seen that the difference between the real recording and the simulated one is not exceeding 10%, what proves that the simulation technique can be extended to all points where we do not have recordings. Taking into account all shown above, using the methodology known as “shake map” we can calculate accelerations (in this case), velocities, response spectra, or having their equivalent in seismic intensities, for a desired number of points from a region where we know geology, geotechnical profiles and data about the seismic input as source, path source – base rock.