



Evaluation of Site Amplification Effects in Ripabottini (Molise, Italy)

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After the 31st October 2002 seismic event occurred between Puglia and Molise regions, the Dip.Te.Ris - geophysical section - organized several seismic investigations in the epicentral area. In particular the village of Ripabottoni (Campobasso, Molise) was chosen to estimate the local site amplification effects. The studies conducted include the H/V spectral ratio techniques both on ambient noise recordings, and on earthquakes. The experimental data were compared with the results obtained from 1D numerical simulation computed with Shake91 code. The results obtained by these analysis point out that in the southern part of Ripabottoni there are no local amplification phenomena, in the central part are present local site effects in a frequency range of 4-6 Hz, while the north-eastern part of the village is affected by a local amplification phenomena with a fundamental frequency range of 2-3 Hz. Finally the north-western part of the village, located on a ridge, shows a significant topographic effect evaluable by applying both reference site methodology and 3D numerical simulation that allowed us to better constrain and discuss the variability of the seismic response in Ripabottoni village.