



Map of soils predominant periods in Ciutat Vella (Valencia) using Microtremors

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The determination of soil response will be very useful for the accomplishment of period maps, which as well, will be used for the planning of the city and the mitigation of the seismic risk of the studied zone

In order to evaluate soil effects in the downtown of Valencia City (Ciutat Vella), short-period microtremor measurements have been densely carried out in the research area and Nakamura's technique (1989) has been applied to determine amplification periods.

Data acquisition has been carried out during several days using two types of seismographs: 1 second and 20 seconds free vibration periods. 110 points, corresponding to a grid of 125m x 125m covering downtown Valencia, has been measured using three components seismometers.

The measured points present wide bands of amplification, one between 0.06 seconds and 0.09 seconds with peaks around 0.07 to 0.08 seconds, other in which some of the points presents amplification close to 0.3 seconds with peaks about 0.2 and 0.6 seconds and, finally, another one with amplification for periods between 2 and 3 seconds, appearing a peak around 2.5 seconds.

Finally, for the representation of the soil periods in the city, it was come to the accomplishment of maps of contour for two of the three resonant peaks mentioned.