Geophysical Research Abstracts, Vol. 7, 04519, 2005 SRef-ID: 1607-7962/gra/EGU05-A-04519 © European Geosciences Union 2005



Site effects analyses in the old city centre of Trieste using accelerometric data and noise measurements

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Part of the old city centre of Trieste is built on the site of a former salina, placed at a river mouth, characterized by soft sediments several tens of meters thick. The city of Trieste (NE Italy), though not affected by strong earthquakes in its recent history, is located near several recognized active faults, belonging to both the Alpine and the Dinaric Domains. The largest reported event ever felt in the city is the 1511 Idrija earthquake, which reached MCS intensity VIII. Recent studies carried out in this part of the city, using accelerometric data and noise measurements from the station CARC, evidenced relevant amplifications in the frequency range of 2-4 Hz, particularly important for the type of buildings present in this part of the city. Additional accelerometric data, with different azimuths, have been analysed using Fourier and Response spectra and applying HVSR and SSR (related to a nearby reference station) techniques. Moreover, noise measurements have been performed also in the surroundings of CARC in order to characterize the site response of a larger area in the old city centre.