



## **The EUROSEISTEST Experimental Test Site in Greece**

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The European experimental site EUROSEISTEST has been established since 1993 in the epicentral area of the June 20th 1978 earthquake (40.8°N, 23.2°E, Ms 6.5, I<sub>max</sub> VIII+ MSK, Papazachos et al., 1979), located in the active tectonic Mygdonian basin, 30km NNE from Thessaloniki, Greece. Euroseistest has been funded by the European Commission - Directorate General for Research and Development under the framework of consecutive EC research projects (EuroseisTest, EuroseisMod and Euroseisrisk). It is specially designed and dedicated to conduct experimental and theoretical studies on site effects, soil and site characterization and soil-foundation-structure interaction phenomena. The geological, geophysical and geotechnical conditions of the Euroseistest valley (Mygdonian graben) is very well constrained through numerous in situ campaigns and laboratory tests. The permanent accelerometric network comprises 21 digital 3D stations, including vertical arrays down to 200m (schist bedrock), covering a surface of about 100 sq Km. The site is also covered by a permanent seismological network. A number of high quality recordings, from temporary and permanent arrays, gave the possibility to perform advanced experimental and theoretical studies on site effects (e.g. Raptakis et al., 1998; Pitilakis et al., 1999; Raptakis et al., 2000; Chávez-García et al., 2000; Makra, 2000; Makra et al., 2001 & 2005). The main advantage of Euroseistest is the detailed knowledge of the 3D geological-geotechnical structure of the basin (Manakou, 2007) and its dense permanent accelerometric network. For this reason the site has been recently selected by CEA to validate and check the advanced numerical codes to be used in Cadarache ITER project. Besides the study of site effects, Euroseistest offers interesting possibilities to study SSI problems through two model structures (scaled 1:3). A 6-storey building and a bridge pier, which have been constructed and instrumented in the centre of the valley, close to the main vertical array. Euroseistest experimental site provides a rigorous high quality database comprising geological, geotechnical, geophysical and seismological data, as well as a valuable set of experimental facilities to study both experimentally and theoretically complex site effects and soil-foundation structure problems. Numerous publications have been already released (see in the web page). It is foreseen to strengthen in the near future the possibility to provide wide access to European and international scientific community to perform joint studies, to validate their models and to improve or develop new ones.