



A new telemetry seismological network in the front part of the Hellenic arc: its contribution to the study and understanding of the seismic behavior of the area.

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A new telemetric seismic network has been installed on the island of Crete and the broader area of South Aegean and is continuously operated by the Laboratory of Geophysics and Seismology of the Technological Educational Institute of Crete in order to provide modern instrumental coverage of seismicity in the southern Greece, as well as some more insight into the stress and deformation fields, tectonics, structure and dynamics of the Hellenic Arc. The latter is the seismically most active region in western Eurasia due to subduction of the oceanic African lithosphere beneath the lithosphere of South Aegean. Crete marks the forearc high of the modern Hellenic subduction zone in the eastern Mediterranean.

The Southern Aegean Seismic Network (SASN) is currently comprised of twelve short period stations and one broad-band station, which are equipped of three-component sensors, third generation high resolution 24-bits digitizers, Reftek type 130-1.

Telemetry is digital in terms of conventional TCP/IP networking using dedicated ADSL-VPN connections. Data are transmitted to the central processing unit, situated at the Laboratory of Geophysics and Seismology building in Chania, Crete, where the

data packets stored in two data servers and one real time processing server running Seismic Network Data Processor (SNDP) software. In addition backup connections with satellite links are prepared for installation.

Network's geometry as well as site selection has been chosen carefully, since the primary goal is to locate seismic events, fact which assures the most accurate determination of seismic parameters. Furthermore, plenty of studies are conducted, concerning mainly the crust structure of the area which will lead to a representative velocity model, the stress-field and the focal depth distribution. The first results from the operation of this permanent network are presented and special attention is given on the January 8, 2006 Kythira intermediate depth earthquake, with $M=6.9$ located at $36,21^{\circ}\text{N} - 23,34^{\circ}\text{E}$.

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