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THE STROMBOLI VOLCANO BROADBAND SEISMIC MONITORING SYSTEM

M. Martini (1), **F. Giudicepietro** (1) , W. De Cesare (1), L. DŠAuria (1) , M. Orazi (1) , G. Scarpato (1), M. Cattaneo (2), L. Badiali (2)

(1) Osservatorio Vesuviano INGV, Naples - Italy, (2) Centro Nazionale Terremoti INGV, Rome - Italy

After the beginning of the eruptive crisis that has interested the Stromboli volcano (Southern Italy) at the end of 2002, starting the second half of January 2003 it has been installed on the island a centralized broadband seismic network, at present composed by 11 stations, all equipped with Guralp CMG-40T (0,02-60 s period). The network is one of the first designed to monitor and analyze in real time the very long periods (VLP) events, which are produced, in the case of the Stromboli volcano, at a rate of hundreds per day. The disposition of the stations has been chosen in order to realize an azimuth and distance homogeneously distribution regarding possible seismic sources situated along the upper part of feeding system of the volcano. The network shows a distribution of stations that encircle the volcanic structure to various levels regarding the area of craters and the eruptive vents, with distance of the stations from the emission centers that vary between some hundreds of meters to about 2 kilometers. The signals, acquired using 24 bits A/D data loggers designed by INGV - CNT, are transmitted via UHF radiomodems to two intermediate centralization sites . The first one is the Observatory of S. Vincenzo where are centralized the stations installed on the northern side of the island, the second is the Observatory INGV in the Lipari island, where are centralized all the other stations. From these two intermediate centralization sites the data are transmitted via TCP/IP protocol, using the Italian scientific-academic internet network GARR, towards the INGV monitoring centers of Catania and Observatory Vesuviano (Naples), where the broadband signals are monitored and processed, using a 64 CPU computer cluster to perform the VLP real-time analysis.