Geophysical Research Abstracts, Vol. 7, 04896, 2005
SRef-ID: 1607-7962/gra/EGU05-A-04896

The 2002-2003 Etna activity observed from the deep seafloor: gravity-meter and seismometer signals acquired by SN-1 multiparameter sea bottom observatory

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The most recent significant eruption of the Etna volcano (Eastern Sicily) over the last 30 years, occurred from October 2002 to January 2003. In the same period a multiparameter autonomous seafloor observatory, SN-1, was operational off-shore the town of Catania, at around 2100 m w.d. The seafloor observatory, designed and developed on the basis of previous EC projects (GEOSTAR and GEOSTAR-2), was equipped with a set of sensors for geophysical and oceanographic measurements with a single time reference. Thanks to the common time signal, the recordings of all the sensors can be easily and unambiguously compared. In particular a three component broad-band seismometer and a prototype of gravity-meter were included in the sensors packages and provided unprecedented signals of Etna pre-eruptive, eruptive and tremor periods. A comparison of the gravity-meter and seismometer data related to the background noise during the mentioned periods will be presented evidencing peculiarities both in time and frequency domains.