



## **NeVoCGPS network: contributions to the Deformation Analysis in Neapolitan Volcanic area based on Continuous GPS measurements**

P. De Martino, U. Tammaro, F. Obrizzo, G. Brandi, M. Dolce, A. D'Alessandro, C. Serio, S. Malaspina, G. Scarpato, and F. Pingue

Istituto Nazionale di Geofisica e Vulcanologia, Osservatorio Vesuviano, Naples, Italy (pingue@ov.ingv.it)

Osservatorio Vesuviano, department of Istituto Nazionale di Geofisica e Vulcanologia, installed a permanent GPS network (NeVoCGPS), constituted of 25 stations, in Neapolitan volcanic area, where three active volcanoes (Somma-Vesuvius, Campi Flegrei caldera and Ischia Island) rise, each characterized by a peculiar type of ground movements activity. The Somma-Vesuvius system exhibits now a low level of ground deformation; the Campi Flegrei, characterized from over 2000 years by slow up and down vertical movements (bradyseism), at present is in a very slow uplift phase; Ischia, finally, shows subsidence in the specific areas (Southern and North-West sectors of the island).

The presence of these volcanoes and the dense urbanization of the area make the ground deformation monitoring a crucial point for risk mitigation and modelling aims.

The 3D ground displacements are calculated using CGPS data, acquired with a 30s rate and with the daily and weekly vertexes position estimate.

All the stations are managed by remote control and the data are automatically downloaded and processed using Bernese software package.

The entire chain of acquisition, processing and data analysis is accurately described and some results obtained in the last years are shown.