

**VESUVIUS VOLCANO STRUCTURE BASED ON SEISMIC TOMOGRAPHY.
RESULTS FROM NEW INVERSION OF THE TOMOVES DATA**

S.A. Tikhotsky¹, U. Achauer²

¹*Foundation of the Russian academy of sciences Schmidt institute of the Physics of the Earth RAS; e-mail: sat@ifz.ru*

²*Institute de Physique du Globe de Strasbourg (France). CNRS UMR 7516*

In order to study Vesuvius Volcano (Italy), active travelttime seismic tomography algorithm with the adaptive media parameterization were applied to the TOMOVES (1994 - 1996) experiment dataset. The velocity model shows certain key features that are in a good agreement with the previous studies and geologic and geophysical data: high-velocity anomaly inside the volcano cone, low-velocity anomalies over the volcano flanks and the upwelling of the limestone basement towards East. At the same time our model shows better resolution in the upper 2 km of the crust and reveals a low-velocity anomaly at 2-4 km depth beneath the volcano edifice. The position of this anomaly coincides with the cluster of the volcano earthquakes.

Keywords: travelttime seismic tomography, Vesuvius Volcano, adaptive media parameterization.