



Crustal Structure of the Abruzzo Apennines (central Italy)

S. Bagh (1,2), N. P. Agostinetti (1), C. Chiarabba (1) and P. De Gori (1)

(1) National Institute of Geophysics and Vulcanology, Rome, Italy, (2) University of Perugia, Perugia, Italy (bagh@ingv.it / Fax: +39 06 51860541)

In this study, the crustal structure of the Abruzzo Apennines (central Italy) is investigated by analysing and processing about 850 local earthquakes and 28 teleseisms, recorded by a dense temporary seismic network composed of 30 digital three-component stations, operated in the study region from April 2003 to September 2004.

The local earthquakes dataset has been used to compute the three-dimensional velocity structure (V_p and V_p/V_s models), with good resolution down to ~ 15 km depth, while the deep crustal structure and the Moho depth beneath the seismic station AB30 (~ 13 km to the S of l'Aquila city) were investigated by inverting the teleseismic receiver functions.

Based on the analysis of the recorded local earthquakes and teleseisms, and other available geophysical data (gravimetric, geomagnetic and active seismic data), a structural model including elements of both thin and thick-skinned tectonics is suggested for this sector of the Apennines.