

## 187 **Adriatic Subduction in Central Mediterranean: 3D Gravimetric Constrains**

<sup>1</sup>BERNABINI, M., <sup>2</sup>DI BUCCI, D., <sup>1</sup>ORLANDO, L., <sup>3</sup>PAROTTO, M. and <sup>4</sup>TOZZI, M. <sup>1</sup>Dip.Idraulica, Trasporti e Strade, Univ. La Sapienza, Rome, Italy; <sup>2</sup>Servizio Sismico Nazionale, Rome, Italy; <sup>3</sup>Dip.Scienze Geologiche, Terza Univ., Rome, Italy; <sup>4</sup>CNR,c.s. Quaternario Evoluzione Ambientale, Rome, Italy.

An old geodynamical problem, whether Adriatic-African lithosphere is actually subducting underneath Italian peninsula, has not yet been solved. New geophysical and tectonic data suggest a better constrained reconstruction of Adriatic subduction using a gravimetric (Bouguer) 3D modelling.

A previous 2D interpretation, based on Bouguer and DSS data, shown a possible doubling of the Moho underneath the Apennines, according to a westwards subduction (or passive sinking) of Adria microplate. A lateral density decreasing in the lower crust and within the lithospheric mantle of the Tyrrhenian area (characterized by high heat flow) has been supposed.

A 3D preliminary reconstruction has also been tried using the stripping-off technique. A strong residual gravimetric anomaly (-30 mGal), located along the central Apenninic chain, has been detected between the positive anomalies of both the Adriatic and the Tyrrhenian coasts. New analyses have been now focused on the central-southern Apennines, where subduction has been already invoked, but where geophysical constrains are still matter of debate. A low density wedge, located at the Moho depth, has been identified in each single gravimetric profile. There is a basic difference in the gravimetric anomalies behaviour between the northern and the southern sector of the Apennines, separated by a sharp E-W trending of the isanomales, probably related to a NE-SW (W-E) activity of major faults.

The integration with very recent deep (down to 50 km) seismic data coming from the CROP project allows now a better comprehension of the deep structure of the Italian crust.