



## **Shallow structure of the Colli Albani Volcanic District from gravity measurements**

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The Colli Albani is a quiescent Volcanic District, located almost 20 km southeast of Rome (Italy). A gravity investigation was carried out in the volcanic area based on a dataset recently enlarged with new measurements, more than 900 new prospecting gravity stations. These cover totally the volcanic area and fill some other important spatial gaps in previous surveys. Besides the new Bouguer gravity map of the Colli Albani, we also present the results of some 2.5D selected profiles and a 3D inverse modeling, carried out by using constraints from deep well exploration and integrated with previous data. The gravity anomalies have been computed according to the 1980 geodetic reference system; a density value of 2300 kg/m<sup>3</sup> has been used in the computation of the Bouguer and terrain effects. The Bouguer anomaly map shows positive values ranging from +12 to +36 mGal. 3D gravity modelling reveals the previously unknown geometry of the dense substratum of the Vulcano Laziale and evidences the presence of a collapsed structure beneath the caldera filled up with low density material. A complex system of faults surrounds the volcanic area. Many tectonic lineaments with prevalent Apennine and anti-Apennine directions can be singled out; some of these are quite coincident with the volcanic fault lines.