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3D gravity inversion at Campi Flegrei

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The knowledge of the present structural state of a caldera is important because it may clarify its evolution and the associated eruptive dynamic. These information are, in turn, useful to volcanic hazard assessment. This is the case of Campi Flegrei caldera, a densely inhabited area near the town of Naples, Southern Italy. In 2001 a tomographic seismic survey (SERAPIS) was carried on. We investigated the 3D shallow structure of Campi Flegrei inverting gravity data collected during previous surveys. We performed a regularized inversion of free air anomalies calibrating it using a synthetic model. The main characteristic structure we find is a caldera the location and shape of which is fairly consistent with the results of SERAPIS experiment. Our results indicates that a more detailed study can be carried on, eventually trying to merge seismic information into gravity modelling.