2008 Joint Assembly
Search Results

Cite abstracts as **Author(s) (2008), Title, *Eos Trans. AGU, 89*(23), Jt. Assem. Suppl., Abstract xxxxx-xx**

Your query was:
sc=gp

HR: 17:44h
AN: **GP54A-08**
TI: Inversion of potential-field data for layers with uneven thickness
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AB: Inversion of large-scale potential-field anomalies, aimed at determining density or magnetization, is usually made in the Fourier domain. The commonly adopted geometry is based on a layer of constant thickness, characterized by a bottom surface at a fixed distance from the top surface. We propose a new method to overcome this limiting geometry, by inverting in the usual iterating scheme using top and bottom surfaces of differing, but known shapes. Randomly generated synthetic models will be analyzed, and finally performance of this method will be tested on real gravity data describing the isostatic residual anomaly of the Southern Tyrrhenian Sea in Italy. The final result is a density model that shows the distribution of the oceanic crust in this region, which is delimited by known structural elements and appears strongly correlated with the oceanized abyssal basins of Vavilov and Marsili. As a possible future improvement we show the implication for simultaneous inversion of gravity data, both for density distribution and for bottom interface, under the hypothesis of local compensation.
DE: 0903 Computational methods: potential fields (1214)
DE: 0920 Gravity methods (1219)
DE: 0925 Magnetic and electrical methods (5109)
DE: 3010 Gravity and isostasy (1218, 1222)
DE: 3260 Inverse theory
SC: Geomagnetism and Paleomagnetism [GP]
MN: 2008 Joint Assembly

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