

## Probability distribution of viscosity profile deduced from mantle density tomography

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We have applied a recently developed inversion method, called Neighboring algorithm (NA), to the geoid-viscosity inversion. NA describes probability distribution of the solution in a model space. Density perturbation in the mantle is taken from Resovsky and Trampert (2002), in which the NA inversion was also used to obtain density anomalies as well as seismic velocity anomalies directly from recently acquired high precision normal mode seismic waveforms. Since the density model provided in Resovsky and Trampert (2002) is the distribution of probability, the data has information of the model space. This enable us to construct a probability distribution of viscosity profile from the numerous geoid-viscosity inversions.