

On a continuation method in Tikhonov regularisation and its application to topology-to-shape optimisation

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We will present an idea of embedding ill-posed problem which is posed in a certain Banach U space into a bigger Banach space W . The resulting ill-posed problem will be more easily solvable in W . Then the solution will be projected onto the smaller space U using a continuation approach. This framework can be used to avoid the local convergence of gradient-based methods in topology-to-shape optimization. We will present illustrative results for magnetic induction tomography.