

A level set method for magnetic induction tomography in 3D

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We present a level set technique for 3D Magnetic Induction Tomography (MIT) with an emphasis on applications to the screening of small boxes up to cargo containers. A level set method is used for modeling a shape evolution when minimizing a given cost functional. Numerical results will be presented that illustrate the performance of our method in practical situations. A novel line-search technique is introduced that is suitable to control the shape evolution for this computationally demanding MIT inverse problem.