

# Boundary element methods for the eddy current model

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Magnetic Induction Tomography is a contactless imaging modality, which aims to obtain the conductivity distribution of the human body. The method is based on exciting the body by magnetic induction using an array of transmitting coils to induce eddy currents. A change of the conductivity distribution in the body results in a perturbed magnetic field, which can be measured as a voltage change in the receiving coils. Based on these measurements, the conductivity distribution can be reconstructed by solving an inverse problem.

The forward problem of this method can be described by the eddy current model. In this talk a boundary element method for this eddy current problem will be presented. The use of suitable preconditioners and fast boundary element methods will be discussed.

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