Factorization and source support methods for electrical impedance tomography

Abstract. *Electrical impedance tomography* (EIT) is a noninvasive imaging technique for recovering the admittance distribution inside a body from boundary measurements of current and voltage. This minicourse considers application of EIT to detection of anomalies under the assumption that the background properties of the investigated object are known. We consider both theory and numerical implementation of two noniterative techniques: the factorization method and certain source support based algorithms. To begin with, the available data is assumed be the whole Neumann-to-Dirichlet boundary map corresponding to the object of interest. Then, the amount of data is gradually reduced in order to take into account the limitations of real-world measurements.

References

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