

Sedimentation monitoring using EIT

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Abstract

Sedimentation monitoring provides information about the properties of a sedimentation process based on non-invasive measurements. The information obtained from sedimentation monitoring can be used in the control and optimization of industrial sedimentation processes. In this talk, we introduce a novel computational method for sedimentation monitoring using electrical impedance tomography (EIT). The method is based on shape estimation and state estimation formulation of the EIT problem. We parameterize the sedimentation using the locations of the sedimentation phase interfaces and conductivities of the phase layers. The state estimation problem is solved using the extended Kalman filter algorithm. The performance of the method is evaluated using simulated and experimental data.