

Interface Reconstruction in Cylindrical Two-Compartment-Systems Using Magnetic Field Tomography

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In magnetic fluid dynamics appears the problem of reconstruction of free boundary between conducting fluids. The reconstruction problem of the interface between two conducting fluids with different conductivities using external magnetic field measurements in the case of a highly simplified model of an aluminium electrolysis cell has been investigated. In the paper, an interface reconstruction technique based on genetic algorithms is presented, and numerical simulations are compared with some magnetic field measurements.

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