Reconstructing a magnetic field from boundary measurements

Mikko Salo

University of Helsinki, Finland

We show that the Dirichlet-to-Neumann map related to the stationary magnetic Schrodinger operator determines the magnetic field and electric potential in a constructive way. The magnetic potential is assumed to be continuous with bounded measurable divergence. The proof is based on using symbol smoothing and semiclassical pseudodifferential calculus for constructing complex geometrical optics solutions in weighted Sobolev spaces.