Log-stability results for inverse coefficients problem associated with time harmonic magnetic Schrödinger operator

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Abstract

We derive conditional stability estimates for inverse scattering problems related to time harmonic magnetic Schrödinger equation. We prove logarithmic type estimates for retrieving the magnetic (up to a gradient) and electric potentials from near field or far field maps. Our approach combine techniques from similar results obtained in the literature for inhomogeneous inverse scattering problems based on the use of geometrical optic solutions.

Keywords: Inverse problems, stability estimate, magnetic potential.