ON GLOBAL UNIQUENESS FOR AN IBVP FOR THE TIME-HARMONIC MAXWELL EQUATIONS

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Abstract

I will present a uniqueness result for an inverse boundary value problem (IBVP) for time harmonic Maxwell’s equations. We assume that the unknown electromagnetic properties of the medium, namely the magnetic permeability, the electric permittivity and the conductivity, are described by continuously differentiable functions. The IBVP is a nonlinear problem to determine these parameters using the boundary measurements of the electromagnetic fields. The key ingredient in proving the uniqueness is the complex geometrical optics (CGO) solutions.

This is a joint work with Pedro Caro.