The interior inverse electromagnetic scattering for an inhomogeneous cavity. (English)

The authors analyse the interior inverse electromagnetic scattering problem for a penetrable cavity in an inhomogeneous medium in three dimensions. Internal measurements allow to determine that the homogeneous cavity is uniquely determined. The linear sampling method is used to reconstruct the cavity and numerical examples are included to illustrate the method.

Reviewer: Luis Filipe Pinheiro de Castro (Aveiro)

MSC:

78A46 Inverse problems (including inverse scattering) in optics and electromagnetic theory
35Q61 Maxwell equations
62D05 Sampling theory, sample surveys
35A01 Existence problems for PDEs: global existence, local existence, non-existence

Keywords:

interior inverse scattering; linear sampling method; exterior transmission problem; Maxwell’s equations; cavity

Software:

Netgen

Full Text: DOI arXiv

References:
