

# Stable determination of the surface impedance of an obstacle by far field measurements

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## Abstract

We deal with the inverse scattering problem of determining the surface impedance of a partially coated obstacle. Such a problem is modeled by a mixed boundary value problem for the Helmholtz equation, where on the coated portion of the boundary the acoustic field satisfies an impedance boundary condition. We prove a stability estimate of logarithmic type for the impedance term by the measurements of the far field pattern.