

Approximation of Dirichlet-to-Neumann operator for problems of diffraction by planar obstacles covered with thin dielectric multilayers

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Abstract

We are interested in problems of diffraction of an acoustic or electromagnetic wave by a perfectly conducting planar obstacle coated with thin multilayers of dielectric materials. The aim is to obtain boundary condition that replaces the effect of dielectric thin layers. This condition is constructed from an approximation of the Dirichlet-to-Neumann operator. In this paper, we analyze the construction and the approximation of this operator.

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