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Electromagnetic wave diffraction on the conducting thin screen placed on the isotropic and anisotropic media interface

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Abstract

The over-determined boundary value problem method in the diffraction electromagnetic waves theory is extended to the case of anisotropic media. The solvability conditions of the over-determined boundary value problems for Maxwell equations set in the anisotropic semi-space are obtained in the case of one-axis anisotropy. The representations of solutions of Maxwell equations set by traces of tangential components of the field on the boundary of domain are constructed. The problem on reflection and refraction of the electromagnetic wave on the isotropic and anisotropic media interface is considered. The integral equation is obtained to determine field perturbation of conducting thin screen placed at the media interface.
