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The problems of electromagnetic waves diffraction on the dielectric index step in the waveguides with metallic bounds

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Abstract

The problem of eigen wave scattering on the media interface of the arbitrary form in the waveguide with the metallic bounds is investigated. The regularization method for integral or summatorial equations of the diffraction problem derived from the field conjunction condition is proposed. The integral identities connecting the traces on the waveguide section of the solutions of the over-determined Cauchy problems in the semi-infinity parts of waveguide are used.
