

# Electromagnetic Scattering by Orthotropic Waveguides

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The talk will be devoted to the mathematical analysis of the scattering of time-harmonic electromagnetic waves by an infinitely long cylindrical orthotropic waveguide iris. This will be done by using an orthotropic Maxwell system in a cylindrical waveguide iris for plane waves, imbedded in an isotropic infinite medium. The corresponding 3D problem will be successfully reduced to a simpler 2D problem. The unique solvability of the associated boundary value problems will be proved and regularity of solutions will be obtained in Bessel potential spaces. Part of the talk is based on a joint work with R. Duduchava and D. Kapanadze.

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