

Uniform Waveguides with Arbitrary Cross-Section Considered by the Point-Matching Method

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The point-matching method applies to the problem of wave propagation in many uniform waveguides of very general cross-sections. The boundary conditions are satisfied at a finite number of points on the guide wall only. This method applies when the contour of the cross section of the guide is a closed curve, the function of which is single-valued. The validity of the point-matching method is demonstrated qualitatively. Examples show that accurate values of cutoff wave numbers can be achieved easily.

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