Abstracts

Complex Guidance Properties of the Slitted Asymmetric Ridge Waveguide

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A new open waveguide for millimeter-wave applications, namely the slitted asymmetric ridge waveguide, is proposed and analyzed that is at the same time simple to fabricate and flexible in terms of electrical characteristics. The analysis is based on the development of an accurate transverse equivalent network and on the derivation of a dispersion relation which gives the complex longitudinal propagation costant in terms of the structural parameters. A detailed parametric analysis is then carried out showing how the real and imaginary parts of the complex propagation constant can be controlled with a good degree of independence from each other.

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