Abstracts

Variational Bound Principle for Multimode Waveguide Scattering

A variational bound (VB) principle is presented for evaluating the matrix elements of a network representation of lossless obstacles in multimode waveguides. The formalism is based on a quantum mechanical VB principle for multichannel (multiport) scattering and is a first attempt to apply the VB method to a multi-mode problem. The procedure for determining the functions required in the application of the VB method is illustrated for a rectangular waveguide propagating two modes that are coupled by a dielectric obstacle.

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