

Modellization of Losses in TE/sub 011/-Mode Waveguide Bandpass Filters

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A mode-matching technique for the analysis of TE/sub 011/ mode waveguide cylindrical bandpass filters including losses is presented. The modes of a lossy radial waveguide are derived and the generalized scattering matrix of the lossy cavity coupled by two rectangular apertures is computed enforcing an impedance boundary condition on the cavity sidewall. Cavity sidewall losses as well as top and bottom wall losses are therefore taken accurately into account. Numerical and experimental results are given for a four cavity filter in K/sub a/ band.

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