

Abstracts

Microwave Modeling of Optical Periodic Waveguides (Short Papers)

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A design procedure and experimental method is presented for modeling optical periodic waveguides by means of more convenient parallel plate microwave configurations. These models are suitable for verifying the beam-coupling properties of dielectric gratings that operate in the fundamental TE/sub 0/ surface-wave mode. In particular, blazed gratings with high coupling efficiencies have been constructed and their characteristics have been measured. The results have shown that previously developed design criteria, which are based on a simple Bragg-scattering approach, can yield highly efficient broad-band beam couplers that are not subject to critical fabrication tolerances.

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