

# Abstracts

## Hybrid FDTD Simulations of Rib-Waveguides

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*A. Lauer, A. Bahr and I. Wolff. "Hybrid FDTD Simulations of Rib-Waveguides." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 589-592.*

Finite Difference Time Domain simulations of rib-waveguides on GaAs substrate are performed using a real-number hybrid (Yee/discrete-wave-equation) scheme in two dimensions. Local grid refinements are derived using equivalent circuit modifications. Discrete formulas are written using shift-operators, which make them short and easy to use. Results are compared to those obtained using the well-known effective-refractive-index (ERI) approximation. FDTD results show excellent agreement with the approximative formula which is given in an explicit form. The refinements work well for low frequencies to determine cutoff-frequencies.

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