# Abstracts

## High-Q rectangular cavities and waveguide filters using periodic metalo-dielectric slabs

*H. Contopanagos, N.G. Alexopoulos and E. Yablonovitch. "High-Q rectangular cavities and waveguide filters using periodic metalo-dielectric slabs." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1539-1542.*

We obtain the exact solution of Maxwell's equations for the fields in rectangular waveguide or cavity loaded with metalo-dielectric slabs of arbitrary thicknesses and permitivities, placed periodically along the longitudinal direction. For cavity applications, we find significant Q-factor enhancements in the microwave regime, relative to cavities made of bulk conductor walls. For waveguide filters, the system allows frequency multiplexing with very competitive filter lengths.

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