# Abstracts

## Scattering by a Lossy Dielectric Cylinder in a Rectangular Waveguide

*R. Gesche and N. Lochel. "Scattering by a Lossy Dielectric Cylinder in a Rectangular Waveguide." 1988 Transactions on Microwave Theory and Techniques 36.1 (Jan. 1988 [T-MTT]): 137-144.*

Electromagnetic fields in a rectangular waveguide containing a lossy dielectric cylinder are investigated by means of the orthogonal expansion method. The calculated results are proved by measurement. Resonance effects become visible by frequency responses of the scattering parameters and understandable by patterns of magnetic fields and Poynting vectors. The lowest resonance is nonsymmetric and can be used to realize tunable bandstop filters with a relative 3-dB bandwidth of about 0.04 and an attenuation of more than 40 dB.

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