# Abstracts

## Exact Principal Mode Field for a Lossy Coaxial Line

*W.C. Daywitt. "Exact Principal Mode Field for a Lossy Coaxial Line." 1991 Transactions on Microwave Theory and Techniques 39.8 (Aug. 1991 [T-MTT]): 1313-1322.*

Exact field equations for a lossy coaxial transmission line with an infinite outer conductor are presented. The corresponding determinantal equation is solved to obtain an exact propagation constant from which errors in the usual microwave approximation and an alternative full frequency range approximation are calculated. The calculations show that the microwave approximation, although containing a large relative error at the lower frequencies, is still useful in practical applications.

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