Abstracts

Unusual Identities for Special Functions from Waveguide Propagation Analyses (Short Papers)

J.A. Cochran. "Unusual Identities for Special Functions from Waveguide Propagation Analyses (Short Papers)." 1988 Transactions on Microwave Theory and Techniques 36.3 (Mar. 1988 [T-MTT]): 611-614.

The analysis of electromagentic wave propagation in "cylindrical" waveguides with step discontinuities leads naturally to sets of unusual identities for various special functions. In this paper we concentrate on those expressions associated with classical rectangular and circular cross-sectional geometry. From a mathematical point of view it turns out, as expected, that the identities are related to bilinear expansions for Green's functions affiliated with familiar Sturm-Liouville boundary-value problems.

❑ Return to main document.