Abstracts

Conformal Mapping Analyses of Microstrips with Circular and Elliptical Cross-Sections (Short Papers)

M.A. Martens, R.W. Brown and E.M. Haacke. "Conformal Mapping Analyses of Microstrips with Circular and Elliptical Cross-Sections (Short Papers)." 1992 Transactions on Microwave Theory and Techniques 40.9 (Sep. 1992 [T-MTT]): 1836-1840.

A new conformal transformation is derived in terms of a Schwarz-Christoffel transformation involving elliptic integrals of the first and third kind. This mapping function is used to give exact solutions for TEM excitations of microstrips and coupled microstrips with circular and elliptical cross-sections. Using these maps, the uniformity of the TEM mode magnetic field inside an elliptical slotted tube transmission line is investigated.

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