Abstracts

Note on the Inversion of the Schwarz-Christoffel Conformal Transformation

L. Lewin. "Note on the Inversion of the Schwarz-Christoffel Conformal Transformation." 1971 Transactions on Microwave Theory and Techniques 19.6 (Jun. 1971 [T-MTT]): 542-546.

An inversion procedure, based on the methods used in proving Burmann's theorem, is used to provide an integral expression which exhibits the form of the electrostatic field explicitly in terms of the field coordinates. The method is illustrated with an example of a stepped-guide junction. The form of the field and the expression for the mode expansion coefficients are examined. The results are related to the companion problem of solving for the transverse field from a singular integral equation formulation. The two methods agree in the particular case of a two-to-one step for which special simplifications are possible. In the general case, progress in the solution of a class of double-kernel integral equations may be expected through the indirect use of the inversion of the solution obtained from the conformal transformation methods.

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