Abstracts

Polar Geometry Waveguides by Finite-Element Methods

P. Daly. "Polar Geometry Waveguides by Finite-Element Methods." 1974 Transactions on Microwave Theory and Techniques 22.3 (Mar. 1974 [T-MTT] (Special Issue on Computer-Oriented Microwave Practices)): 202-209.

For waveguides whose geometries are described as coordinate surfaces in circular polar coordinates, a finite-element method is used to derive base matrices over a triangular element in the polar geometry. These matrices are used to solve, mode problems in circular, sector, double-ridged circular, and spiral waveguides. The discussion is mainly in terms of cutoff frequency, bandwidth, and convergence.

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