Abstracts

A Monte Carlo Method for the Dirichlet Problem of Dielectric Wedges

R. Schlott. "A Monte Carlo Method for the Dirichlet Problem of Dielectric Wedges." 1988 Transactions on Microwave Theory and Techniques 36.4 (Apr. 1988 [T-MTT]): 724-730.

The Monte Carlo method considered here can be used to numerically compute electrostatic potentials inside a closed surface where a) the potential on the surface is known and b) the dielectric constant inside the surface changes only on boundaries. In this paper a modification is proposed to previously employed Monte Carlo methods, to overcome problems presented by dielectric wedges. In addition it is shown how it can be easily determined whether or not a point is inside a given domain. The connection between this topological problem and the Monte Carlo technique is explained.

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