

Abstracts

New View on an Anisotropic Medium in a Moving Line Charge Problem (Short Papers)

M. Kobayashi. "New View on an Anisotropic Medium in a Moving Line Charge Problem (Short Papers)." 1982 Transactions on Microwave Theory and Techniques 30.11 (Nov. 1982 [T-MTT]): 2046-2049.

The electromagnetic field solution of the problem, in which the line charges move uniformly parallel or perpendicular to the interface of two different anisotropic media, is obtained by the method of moving images. The results are shown by representing the moving image line charges for such a problem. A new view on an anisotropic medium in such a problem is discussed by defining the equivalent metric factor and the equivalent normalized metric factor. The minimum principle shown in this short paper states that the electric flux emitted from the moving line charge chooses a trajectory that minimizes the equivalent effective length.

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