Abstracts

Vector Variational Formulation of Electromagnetic Fields in Anisotropic Media

Maxwell's equations can be cast into a basic differential operator equation, the curlcurl equation, which lends itself easily to variational treatment. Various forms of this equation are associated with problems of practical importance. The formulation includes the treatment of loss-free anisotropic media. The boundary conditions associated with electromagnetic-field problems are treated in detail and the uniqueness of the solution is discussed. A functional is derived for the curlcurl equation in Cartesian and cylindrical coordinates.

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