Abstracts

Resonance of a Rectangular Microstrip Patch on a Uniaxial Substrate

K.-L. Wong, J.-S. Row, C.-W. Kuo and K.-C. Huang. "Resonance of a Rectangular Microstrip Patch on a Uniaxial Substrate." 1993 Transactions on Microwave Theory and Techniques 41.4 (Apr. 1993 [T-MTT]): 698-701.

Effects of uniaxial anisotropy in the substrate on the complex resonant frequency of the microstrip patch antenna are investigated in terms of an integral equation formulation. The complex resonant frequency of the microstrip patch antenna is calculated by using Galerkin's method in solving the integral equation. The sinusoidal functions are selected as the basis functions, which show fast numerical convergence. Numerical results also indicate that both the resonant frequency and the half-power bandwidth are increased due to the positive uniaxial anisotropy and, on the other hand, decreased due to the negative uniaxial anisotropy.

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