Abstracts

Anisotropic permittivity and attenuation extraction from propagation constant measurements using an anisotropic full-wave Green's function solver for coplanar ferroelectric thin-film devices

In this paper, a full-wave spectral-domain integral-equation technique is used to study double substrate layer coplanar devices with the ferroelectric thin film adjacent to the conductor guiding interfacial surface. The Green's function is used in the anisotropic situation for anisotropic permittivities. In examining specific laboratory data, going from an unbiased static electric field to the biased case, the permittivity tensor is allowed to go from a unity tensor to a uniaxial one. Consistent with this permittivity tensor behavior, the attenuation trend with frequency and its amplitude is also found.

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