

Characterization of dielectric materials with the finite-element method

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A technique to characterize homogeneous and inhomogeneous dielectric materials based on measurements and computations is presented. The first step of the method proposed consists of measuring the resonant frequencies of an arbitrarily shaped cavity containing an arbitrarily shaped sample of the material under test. In the second step, the measured data are used in two different algorithms, both based on the finite-element method, to solve for the dielectric constant.

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