Abstracts

Toroidal Resonator with a Conducting Separating Wall

The exact solution of Maxwell's equations for electromagnetic waves in toroidal resonators with a separating wall was obtained. The components of the intensities of the electric and magnetic fields, the charge densities on the toroidal surface and on the separating wall, the magnetic field lines, and the dispersion relation were determined. Both the empty torus and the coaxial torus were studied. A general method to determine in an easy way the magnetic field lines from the structure of the Hertz vector is given.

❑ Return to main document.