Abstract:
An iterative transmission line technique for the determination of complex permittivity of non-magnetic, isotropic materials is addressed. The method is based on minimizing the objective function measuring the error between simulated and measured scattering parameters by classical Newton's method. An Electromagnetic field solver is used to solve the forward problem which is repeated in the application of Newton's method at each iteration. Since full-wave simulation is carried out, the method has no strict limitations on the geometry of the samples. For validation, proposed method is tested against partially loaded waveguide measurements at K-band.

Stichworte:
Materials, permittivity, permittivity measurement, Power transmission lines, Scattering parameters, Transmission line measurements

Kongress- / Buchtitel:
15th URSI General Assembly and Scientific Symposium

Verlag / Institution:
IEEE

Verlagsort:
Istanbul, Turkey

Jahr:
2011

Monat:
aug

Volltext / DOI:
doi:10.1109/URSIGASS.2011.6050289
Occurences:

- Einrichtungen > Fakultäten > Fakultät für Elektrotechnik und Informationstechnik > Lehrstühle und Professuren > Hochfrequenztechnik (Prof. Eibert) > 2011

Entries: