

Microwave Characterization of Heterogeneous Material in Transmission Line: A Model with Resonators

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Problems of measurement appear when characterizing heterogeneous materials in the microwave frequencies in transmission line or waveguide, even when these materials are known to be homogenizable. A model for the perturbed line is introduced. The measurement cell containing the sample is represented by an unperturbed line in series with resonators which model the coupling between the sample and the measurement cell. Finally, the intrinsic characteristics of the material are computed from the unperturbed line.

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