



# Stepped Waveguide Electromagnetic Material Characterization Technique

By Sean P. Dorey

Biblioscholar Nov 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x4 mm. This item is printed on demand - Print on Demand Neuware - Electromagnetic material characterization is the process of determining the complex permittivity and permeability of a material. A new waveguide material measurement technique is developed to reduce test sample size requirements for low-frequency applications. Specifically, a waveguide sample holder having a reduced aperture is utilized to decrease the time and cost spent producing large precision test samples. This type of sample holder causes a disruption in the waveguide-wall surface currents that results in the excitation of higher-order modes. This thesis will demonstrate how these higher-order modes can be accommodated using a modal-analysis technique, thus resulting in the ability to measure smaller samples mounted in large waveguides and still determine the constitutive parameters of the materials at the desired frequencies. 66 pp. Englisch.



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