Abstracts

Density-Independent Moisture Metering in Fibrous Materials Using a Double-Cutoff Gunn Oscillator (Dec. 1980 [T-MTT])

W. Hoppe, W. Meyer and W.M. Schilz. "Density-Independent Moisture Metering in Fibrous Materials Using a Double-Cutoff Gunn Oscillator (Dec. 1980 [T-MTT])." 1980 Transactions on Microwave Theory and Techniques 28.12 (Dec. 1980 [T-MTT] (1980 Symposium Issue)): 1449-1452.

A new method of density-independent moisture determination with microwaves operating at one single frequeney is developed. It is based on the two-parameter measurement of the complex dielectric constant being composed to a density-independent calibration factor A(psi) which is a function of moisture content psi. As a first application, a double-cutoff Gunn osclllator was built, stabilized by adjacent modes of a single measuring cavity containing the moist fibrous specimen. The technique removes the need for density and sample-size corrections.

❑ Return to main document.