

Abstracts

Wideband Dispersion Measurements of Water in Reflection and Transmission

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Planar antennas are switched photoconductively to generate picosecond bursts of freely-propagating radiation with usable spectral amplitudes from 5 to 85 GHz. This radiation is used to perform reflection and transmission measurements on materials, with experimental results presented for the complex index of refraction of water. We compare the relative merits of time-domain reflection and transmission material measurements and present new deconvolution techniques for extracting frequency-domain information from time-domain measurements.

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