Abstracts

Six-Port and Four-Port Reflectometers for Complex Permittivity Measurements at Submillimeter Wavelengths

U. Stumper. "Six-Port and Four-Port Reflectometers for Complex Permittivity Measurements at Submillimeter Wavelengths." 1989 Transactions on Microwave Theory and Techniques 37.1 (Jan. 1989 [T-MTT]): 222-230.

The frequency range of six-port reflectometry has been extended into the submillimeter wavelength range. The complex permittivity of low-loss microwave materials has been determined using new six-port and four-port reflectometers developed in the Physikalisch-Technische Bundesanstalt (PTB). These either consist of quasi-optical components or utilize oversized waveguide techniques. Permittivity measurements of materials possessing a wide range of values of epsilon' (2 to 7) and of the loss tangent (0.0003 to 0.03) were carried out at frequencies of about 380 GHz to 390 GHz. Good agreement with published permittivity data is shown.

❑ Return to main document.