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Title:Measuring the dielectric properties of materials. Ninety-year development from low-frequency techniques to broadband spectroscopy and high-frequency imaging
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Abstract:The development of methods for measuring the dielectric properties of materials is reviewed with a special view to the background of the past 90years. The close correlation between progress in measurement methods and scientific and technological advances is shown. The current state of techniques for the broadband dielectric spectroscopy of materials, covering the enormous range from about 10⁻⁵-10¹³Hz, is reported. Also briefly presented are currently discussed methods for the scanning microwave microscopy as well as electrical tomography of objects. Reference to a wide spectrum of applications demonstrates the broad and diverse usability of dielectric measurement methods. © 2013 IOP Publishing Ltd.
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