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Title:A study on the resolution of a terahertz spectrometer for the assessment of the porosity of pharmaceutical tablets
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Abstract:In this study, the resolution of a time-domain terahertz spectrometer for tablet porosity measurements was estimated using two sets of pharmaceutical tablets. One set consisted of tablets with constant thickness and with porosity as a variable. The other set consisted of tablets with variable thickness and only a relatively small change in porosity. The set with constant thickness was used for the calibration of the terahertz (THz) spectrometer for the porosity measurements, and the resolution of the terahertz spectrometer was estimated using the set with different thicknesses and slightly different porosities. It was shown that a timedomain THz spectrometer is a sensitive device that allows monitoring of minute changes in the porosity of pharmaceutical tablets by detecting the time delay of the THz pulse, which is attributable to different refractive indices within the tablet. © 2012 Society for Applied Spectroscopy.
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Uncontrolled terms:Constant thickness - Pharmaceutical tablets - Porosity measurement - Sensitive devices - Tablet - Tera Hertz - Terahertz spectrometer - THz pulse - Time domain - Variable thickness
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