

Title (en)

SAMPLE ANALYSIS USING TERAHERTZ SPECTROSCOPY

Title (de)

PROBENUNTERSUCHUNG MITTELS TERAHERTZ-SPEKTROSKOPIE

Title (fr)

ANALYSE D'ÉCHANTILLONS PAR SPECTROSCOPIE TÉRAHERTZIENNE

Publication

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Application

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Abstract (en)

[origin: WO2011107236A1] The invention relates to a method for analysing the material of a sample (3) using terahertz spectroscopy in order to identify material irregularities of the sample (3), having the following steps: (a) a terahertz wave transmitting device (5, 8) is used to transmit electromagnetic waves (6, 9) at a frequency in the terahertz range to the sample (3) to be analysed, (b) a terahertz wave receiving device (1, 8) is used to receive electromagnetic waves (7, 9) in the terahertz range from the sample (3), (c) the terahertz wave receiving device (1, 8) supplies the received waves (7, 9), in the form of a time domain signal or a frequency domain signal, to an evaluation device (10), (d) if a signal supplied to the evaluation device (10) is a time domain signal, the evaluation device (10) converts the time domain signal into a frequency domain signal (H) by means of a first spectral transformation, (e) the evaluation device (10) converts the frequency domain signal (H) into an output function (Q(x)) by means of a second spectral transformation, by means of which output function anomaly values (Q) determined are assigned to corresponding optical depth values (x) of the sample, (f) the evaluation device (10) presents the output function (Q(x)) as anomaly values (Q) with respect to optical depth values (x) on a display device and/or automatically determines at least one material irregularity (12) of the sample (3) from the output function (Q(x)) according to at least one predefined comparison criterion.

IPC 8 full level

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