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Complex refractive index determination using Terahertz time domain spectroscopy

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Abstract content
 (Max 300 words)

Terahertz time domain spectroscopy (THz-TDS) has in recent years proven itself an invaluable tool for material characterization. The versatility of the technique lies in the fact that the signal is detected in the time domain and thus contains both phase and amplitude information. This implies that information about both the real and imaginary part of the complex refractive index of a sample can be obtained. Very small variations in the refractive index of materials can be measured, making the technique sensitive to small distortions and defects in the material under investigation. In this work we will focus on explaining the THz-TDS technique as well as the procedure for extracting the material parameters. This will be done by presenting some results from recent measurements.

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