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**UNIVERSITÄT
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Seminar über Ultrafast Science and Technology

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Titel: Methods to Extract Materials Properties from THz Time Domain Spectroscopy Measurements

Terahertz (THz) time domain spectroscopy is an effective method to determine the frequency dependent dielectric parameters of materials. For accurate parameters extraction sophisticated data analysis is required. In this presentation, I introduce and compare three different methods for analyzing the measurement data.

In the first method the frequency dependent material properties are determined by optimizing the sample thickness via iterative minimization process considering the periodic Fabry–Perot echoes. The second approach relies on a three-dimensional optimization algorithm to determine the samples properties. The last method uses Bayesian data analysis which is a method of statistical inference.

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