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Introduction to ellipsometry with a focus on use with terahertz time-domain spectroscopy

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Ellipsometry is a spectroscopic technique with which one can obtain both the refractive index and absorption coefficient of a sample by measuring the polarization resolved light reflected from it. This is especially useful in situations where making use of a reference sample is unwanted. Terahertz time-domain spectroscopy is a powerful spectroscopic tool, but terahertz radiation is strongly absorbed by water. Thus, it is near impossible to analyse a sample in an aqueous solution, or any other material that is optically dense to terahertz radiation, in transmission. To examine such samples, it would be preferable to work in reflection, but conventional reflection setups in the terahertz region are very difficult to construct due to the accuracy required in the positioning of a reference sample relative to the sample of interest. To circumvent this problem, we constructed a terahertz ellipsometer. On this poster, we will be discussing the basics of ellipsometry and its implementation in conjunction with terahertz time-domain spectroscopy.

Summary

On this poster, we will be discussing the basics of ellipsometry and its implementation in conjunction with terahertz time-domain spectroscopy.

Apply to be
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Yes

Level for award
 (Hons, MSc,
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PhD

Main supervisor (name and email)
and his / her institution

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Would you like to
 submit a short paper
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 Proceedings (Yes / No)?

No

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