



Lab 3 : Spectrophotometry

Aim:

Optimising the optical properties of materials is crucial for creating photovoltaic devices. Spectrophotometry measures the transmission/reflection of light through/from a sample as a function of wavelength.

In this experiment, we will record the transmission spectra for our sample and use these data to calculate the absorption coefficient and optical band-gap of our material

Video lab-script: <http://tinyurl.com/cdtpv-labs>

Tasks:

1. Make sure you have completed a risk assessment for this lab.
2. Set your scan parameters
3. Baseline the system
4. Mount the sample, flat and in the correct position
5. Measure the transmission through the sample
6. Export your data

Questions:

1. What is the band-gap of the material?
2. What is the thickness of the layer?

Bonus:

- If the layer is graded; can you take a scan at several different points on the sample to map the thickness across it?