EE 535 Lab 3: Hall Effect Mobility

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https://github.com/Jetsama/EE535/tree/main/Lab3

Abstract

The hall effect The precise thickness of a thin absorbing wafer can be found using the transmission observed from a spectrophotometer. This procedure was done for amorphous silicon (aSi) and zinc selenide (ZnSe) wafers with unknown widths.

Introduction

Two wafers of different materials were observed with a spectrophotometer to yield measurements of The method evaluated in this paper to calculate the wafer film's width uses the transmition measured as well as the peaks and valleys of the resulting graph.

Definitions

Quantum Effi Transmission (T) is the amount of light and electromagnetic radiation that passes through a media.
Reflection (R) is the amount of light and electromagnetic radiation that changes direction.
Absorbance (A) is the measure of how much light is absorbed by a substance at a particular wavelength.

Experimental

During this lab measurements of

Theory

The hall effect is created by the Lorenz force. Electrons moving along an electric field perpendicular to a magnetic field. The force of the magnetic field applies is calculated using equation **??**. Where q is the elemental charge of an electron, E is the electric field, and B is the magnetic field.

$$F = qE + qv * B \tag{1}$$

Results

Appendix

For information on the pure data or computational scripts there is a repository for this and other labs. https://github.com/Jetsama/EE535

References

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