Shahaf Dan
Physics 1D - QM
Project Outline

Superconductivity & Meissner's Effect

Physics 1D | Quantum Mechanics

Project Description

This project will be for the Physics 1D - Quantum Mechanics Class, taken in the spring of 2020. For the remainder of the academic term, I will pursue research about general superconductivity, the derivation and development of the mathematical idea and conclusion, as well as conduct an experiment to learn and examine the Meissner Effect (Magnetic Elevation).

Motivation / Origins of the Idea

During the summer, I read an old book of my dad. The book introduced me to many ideas of quantum mechanics, one of which was superconductivity. Thanks to my exaggerated coursiousity, I have decided to learn about the topic a little more, and started watching videos about it online. After being exposed to various experiments of superconductivity around magnets, and particularly the Meissner's effect, I have decided that the project at the Physics 1D class would be a perfect opportunity to conduct my own educational experiment and research about superconductivity, and expand the borders of my knowledge even further.

Project Management Plan

Tha project completion process is divided into a few sections, each one to a small segment of separate parts.

1. Research: Collect resources of information, and begin the general research about the selected topic.
2. Draft Write Up. After collective research, and after a general work cited list is generated, the first draft should be written.
3. Experiment conduction: Considering the fact that I desire to talk about the experiment in my paper, it will be best if I were to conduct the experiment prior to writing the

final draft of the paper. This may require additional research and additional resources.

4. Experiment: After conducting the experiment, I shall execute the idea. Along with the professor I will create a list of necessary items and objects for the experiment. I will then conduct the experiment and write a short report about it, which will be included within the final research paper.
5. Final Paper: After the experiment's results have been analyzed and the report has been generated and added to the research paper, I shall finalize the research paper and polish the paper.
6. Presentation: After the final paper had been written, a presentation to present the collective research shall be presented to the class.

Timeline

The timeline is divided and projected according to the sections described in the project management plan.