

Meeting Presentation

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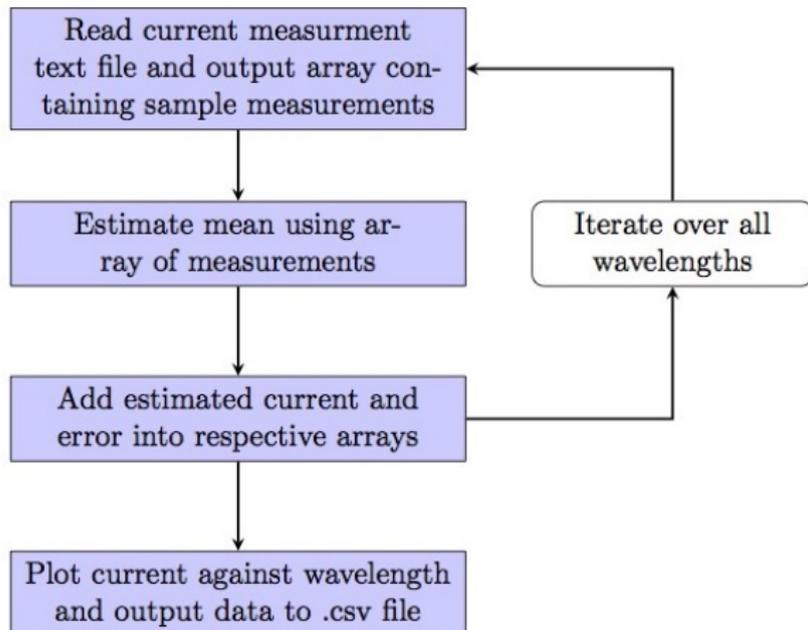
Preliminary Study Outline

0. Current across S1227 Photodiode as a Function of Wavelength
1. Transmission Percentage as a Function of Wavelength - Control
2. Transmission Percentage as a Function of Wavelength - Acrylic Plate
3. Transmission Percentage as a Function of Wavelength - Silicon Cookie
4. Transmission Percentage as a Function of Wavelength - Silicon Cookie Interfaced with Acrylic Plate

Experiment 0

- **Purpose:** Characterize photodiode by relating wavelength of light to current response
- **Method:** Use monochromator to select light of wavelengths 270, 280, 290, ..., 490, 500 nm. Take 100 current measurements for each wavelength.

runExperiment0.py



runExperiment0.py

```
import readFile
import CI
import figures
import writeFile

wavelength = []
current = []
error = []

for i in range(270, 510, 10):
    currentMeasurements = readFile.readFile("0_" + str(i) + ".txt")
    meanCurrent, currentError = CI.95CIMean(currentData)
    wavelength.append(i)
    current.append(meanCurrent)
    error.append(currentError)

figures.plotScatter(wavelength, current, error, "Wavelength (nm)", "Current (A)", "Current across S1227 Photodiode as a function of Wavelength", "Experiment0CalibrationCurve")
xywithErrortoCSV(wavelength, current, error, "Wavelength (nm)", "Current (A)", "Experiment0")
```

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Next Steps

- Start experiment 0
- Write up plans for experiments 1, 2, 3, and 4
- Silicon gel cookie
- Potential machine shop training