

# YOUR TITLE HERE

Your Name  
February 2, 2021

## ABSTRACT

Your ABSTRACT here, beginning with broad context of the paper, moving into finer detail of exactly what your experiment was testing and why, and culminating with a summary of key findings and conclusions. Try to quote something quantitative. Aim for one paragraph, maybe two, and no more.

## 1. Introduction

Your INTRODUCTION here. Start with some context and motivation for your paper, oriented toward, say, a fellow classmate who has not taken this class yet. Establish why we care, but do not waste time with grandiose (“Since the dawn of time...”) statements.

Dial in to the specifics of this paper, what the key concepts are and what you are going to test.

Finish your intro with a document map: In §2 we introduce the techniques used in this paper. In §3 we describe ... and we conclude in §6.

## 2. Background

Here is a great place to show us the theory that you learned for this class (Nyquist Sampling, Fourier Transforms, etc.). Use some equations.

$$y = mx + b \tag{1}$$

Make sure you end your background with a transition into the specific set up of your first experiment.

### 3. Experiment One

Here you should introduce and summarize the first of your key experiments for this lab. (You can choose which one that is). Make sure you are clear on what hypothesis you are trying to test and what questions you are trying to answer, and how this experiment is going to test/answer them.

#### 3.1. Methods / Experimental Setup

Delve into the specific configuration, setup, and theory for this experiment that may not have been fully covered in §2. Feel free to reference previous equations (e.g. “according to equation 1”).

Finish this section with a description of the data you collected (number of samples, time interval, sampling frequency, etc.)

#### 3.2. Analysis

Describe the analysis you perform here to extract answers from the data you collect. Show figures and plots that tell a clear story and reference them from the text (e.g. “as Figure 1 shows, ...”).

#### 3.3. Results

Here is where you can interpret the analysis in the previous section to compare what you measured against expectations. Try to make your comparisons as accurately and quantitatively as possible. Make sure to answer (or state why the results are not conclusive) your key questions, but do not overstate your findings. Try especially to quantify your uncertainty.

Measurements with error bars are key results that you should highlight here. Highlight these results in your abstract, too.

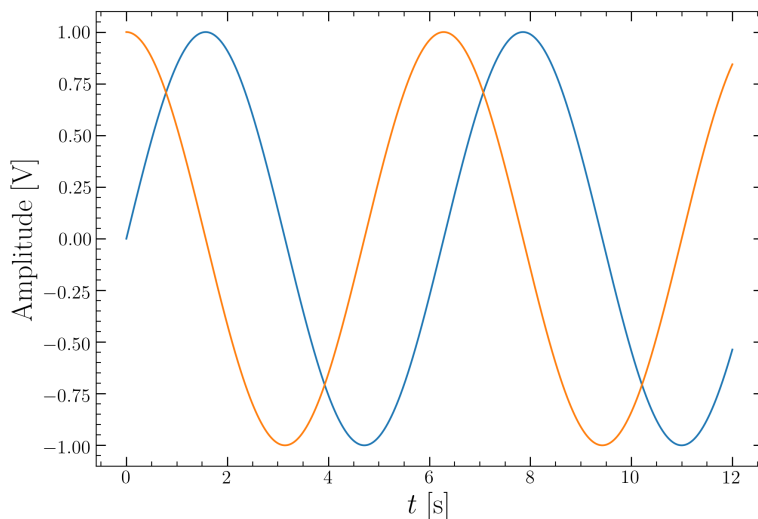


Fig. 1.— Write a caption that succinctly summarizes what this plot is and what the take-away points should be. Aim for three to four sentences. Make sure your plot has axis labels, a legend, sensible bounds, and is legible *at the default zoom/printing scale*. Note that L<sup>A</sup>T<sub>E</sub>X has a complicated algorithm for figure placement; it’s okay if your figure is not exactly where you put it in your text.

#### 4. Experiment Two

#### 5. Experiment Three

#### 6. Conclusion

Here you should collect and summarize your results. Make sure to highlight the key points that you found and answer the questions that were asked throughout the report. Explain how you’ve come to the conclusions that you’re making based on the results that you’ve presented.

#### Acknowledgements

Here you should acknowledge anyone that helped you with this work (your lab mates and the division of labor) and software packages used (`numpy`, `ugradio`, `scipy`, etc.).