

# Formal Lab

## Hooke's Law

Physics 4A

Connor Darling

Lab Partner: Gabe Ilano

December 2022

# Contents

1	Purpose	2
2	Theory	3
3	Theory	4
4	Procedure	5
5	Data	6
6	Analysis	7
7	Error Analysis and Procedural Errors	8
8	Conclusion	9
9	Suggestions for Improvement	10

# Chapter 1

## Purpose

To verify Hooke's law and calculate the spring constant.

## Chapter 2

# Theory

The force due to a spring stretched (or compressed) a distance  $\Delta x$  from the equilibrium position is given by the following expression:

$$\vec{F}_s = -k\Delta\vec{x} \text{ where } s = (\text{force exerted by}) \text{ spring } k = \text{the spring constant (in N/m)}$$

## Chapter 3

### Theory

The force due to a spring stretched (or compressed) a distance  $\Delta x$  from the equilibrium position is given by the following expression:

$$\vec{F}_s = -k\Delta\vec{x} \text{ where } s = (\text{force exerted by}) \text{ spring } k = \text{the spring constant (in N/m)}$$

## Chapter 4

# Procedure

## Chapter 5

# Data

## Chapter 6

# Analysis



## Chapter 7

# Error Analysis and Procedural Errors

## Chapter 8

## Conclusion

## Chapter 9

# Suggestions for Improvement