Formal Lab
Measuring g

Physics 4A

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Contents

Chapter 1

Purpose

1.1 What is the purpose of this lab

1.2 What are you trying to measure

Chapter 2

Theory

2.1 Give a description of the theory involved for this particular lab.

Chapter 3

Procedure

3.1 Desccribe the procedure of this lab with detail for duplication

Chapter 4

Data

4.1 This section should incluse all of the measured values. (no calculations)

4.2 Include error associated with measurements

Chapter 5

Analysis

5.1 Include Values

calculated fron data, graphs, answers to Qs

Chapter 6

Error Analysis and Procedural Errors

Chapter 7

Conclusion

Chapter 8

Suggestions for Improvement

Chapter 9

Equations

In this case, percent error should be used because this is an experimental result being compared to the accepted known value of $g = 9.8\frac{m}{s^2}$

$$3/8\text{" } ball: \qquad \%error = \frac{|E-K|}{K} * 100\% \tag{9.1}$$

$$= \%\text{error for } 0.200m = \frac{|9.819\frac{m}{s^2} - 9.755\frac{m}{s^2}|}{9.755\frac{m}{s^2}} * 100\% = 0.71\% \ (0.707\%) \tag{9.2}$$

$$= \%\text{error for } 0.400m = \frac{|9.819\frac{m}{s^2} - 9.726\frac{m}{s^2}|}{9.726\frac{m}{s^2}} * 100\% = 0.96\% \ (0.956\%) \tag{9.3}$$

$$= \%\text{error for } 0.600m = \frac{|9.819\frac{m}{s^2} - 9.841\frac{m}{s^2}|}{9.841\frac{m}{s^2}} * 100\% = 0.22\% \ (0.223\%) \tag{9.4}$$

$$= \%\text{error for } 0.800m = \frac{|9.819\frac{m}{s^2} - 9.803\frac{m}{s^2}|}{9.803\frac{m}{s^2}} * 100\% = 0.16\% \ (0.163\%) \tag{9.5}$$

$$= \%\text{error for } 1.000m = \frac{|9.819\frac{m}{s^2} - 9.794\frac{m}{s^2}|}{9.794\frac{m}{s^2}} * 100\% = 0.26\% \ (0.255\%) \tag{9.6}$$

$$1/2\text{" } ball: \qquad \%error = \frac{|E-K|}{K} * 100\% \tag{9.7}$$

$$= \%\text{error for } 0.200m = \frac{|9.824\frac{m}{s^2} - 9.824\frac{m}{s^2}|}{9.824\frac{m}{s^2}} * 100\% = 0.38\% \ (0.375\%) \tag{9.8}$$

$$= \%\text{error for } 0.400m = \frac{|9.824\frac{m}{s^2} - 9.877\frac{m}{s^2}|}{9.877\frac{m}{s^2}} * 100\% = 0.54\% \ (0.537\%) \quad (9.9)$$

$$= \%\text{error for } 0.600m = \frac{|9.824\frac{m}{s^2} - 9.880\frac{m}{s^2}|}{9.880\frac{m}{s^2}} * 100\% = 0.57\% \ (0.567\%) \quad (9.10)$$

$$= \%\text{error for } 0.800m = \frac{|9.824\frac{m}{s^2} - 9.837\frac{m}{s^2}|}{9.837\frac{m}{s^2}} * 100\% = 0.13\% \ (0.132\%) \quad (9.11)$$

$$= \%\text{error for } 1.000m = \frac{|9.824\frac{m}{s^2} - 9.837\frac{m}{s^2}|}{9.837\frac{m}{s^2}} * 100\% = 0.13\% \ (0.132\%) \quad (9.12)$$