Measuring the coefficient of friction

Student Name Physics Laboratory August 29, 2026

Abstract

This report summarizes an experiment, records the observations, and explains the uncertainty in the final coefficient. A good abstract states the question, method, numerical result, and conclusion in a few sentences.

1 Introduction

For a block on a horizontal surface the limiting friction force is $F_f = \mu_s N$. We determine μ_s by increasing the applied force until the block just begins to move.

2 Experimental procedure

Describe the apparatus clearly enough that another student could reproduce the measurement. List calibration steps and identify the quantity read from each instrument. Record changes to the planned procedure here.

3 Data and analysis

Table 1: Example observations. Replace these values with your data.

Mass (g)	Normal force (N)	Threshold force (N)
200	1.96	0.62
300	2.94	0.91
400	3.92	1.22

Fit threshold force versus normal force and report the slope with its uncertainty. Include a figure or an error-propagation calculation when useful.

4 Discussion and conclusion

Compare the measured value with a reference or theoretical prediction. Discuss friction from the pulley, surface contamination, and the resolution of the force sensor. End with one sentence stating the result and its uncertainty.