Physics 40: Abstracts

Abstracts: As part of your formal lab report, you are required to write an abstract summarizing the most important details of your experiment. The following sample abstract was written as a guide for general physics students.

Abstract

In this lab we find the acceleration due to gravity (g) by measuring acceleration of a cart on an inclined track. We measured the acceleration of an object moving down an inclined plane using a Logger Pro motion detector and used Newton's 2nd Law to calculate g. Our best experimental value of g was 8.533m/s/s. We used two methods for finding the uncertainty in g. First, using the average deviation from 10 and 20 data points, and using propagation of error using all measured values. When compared to the known value of (9.80011 +/- .0002)m/s/s, the percent error was calculated as12.9%.

Note that this abstract briefly gives, as all good abstracts should, what you did, how you did it, and what you got. Numerical results should be given in an abstract when, as in the sample above, the few numbers typify the primary results. In other cases general statements can be made; for example, "a was found to be a linear function of b" or "the results agree with Bif's Law except at temperatures above 350 K."

Check Out: How to write abstracts: http://www.pls.uni.edu/couch/abstracts.htm

More Samples:

Abstract

Our goal was to approximate the gravitational acceleration of an object by applying Newton's second law of motion. We used a swinging pendulum to find the acceleration due to gravity. Our derived values for ***g*** was: (9.78±.080) m / s^2. When compared to the known value of (9.80011 ± .0002) m /s^2 the pendulum provided a result that was within 0.306%.

Abstract

Our primary objective was to test the validity of Newton's Second Law of Motion which predicts that the acceleration due to gravity of an object is independent of object's mass. The acceleration of a glider on an inclined air track by the earth's gravity was measured as a function of glider mass. The motion was measured with an ultrasonic ranging device. We observed that the acceleration was 9.8 ± 0.05 m/s^2, independent of object mass, and consistent with the currently accepted value for the gravitational acceleration at sea level. We also studied the relationship between the angle of inclination of an inclined air track and the acceleration of gravity of an object traveling down it. We found that g = 9.82 ± 0.2 m/s^2, independent of the angle of inclination and consistent with the accepted value of g. We suggest methods by which even more accurate values of gravitational acceleration may be determined.