Physics 1101-1120 Prelab Surrey Campus
Last update: August 2008

Expt. 2: Uniform Circular Motion

Read Experiment #2 and find the equations used in the following. Derive the associated uncertainty formulas.

A cart of mass M = 150 ± 1 g is rotating in a circle of radius R = 35.0 ± 0.5 cm. Each rotation takes T = 1.250 s ± 1.5%. Determine the net radial force acting on the cart.
(Unrounded answer:1.326 ± 0.068)

The net radial force is supplied by the tension of a string. The string supports a stationary mass of 50 ± 1 g. Assume g = 9.81 ± 0 m/s^2. What is the tension in the string?
(Unrounded answer: 0.4905 ± 0.0098)

Note: You will not be allowed into the lab until you show that you have done the prelab and have properly prepared the introductory portion (Title, Objective, Theory Summary and Uncertainty Derivations) of the lab in your notebook.

No extra lab time will be allowed for the time you miss if you are unprepared.