Conservation of Energy lab

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Course/ Section: PHYS2750, section QQ

Date: March 2, 2014,

Abstract/ summary of lab

In the conservation of energy lab the objective states "calculate the speed of a skaters at different positions along a track and determine the coefficient of friction of a surface using the conservation of energy theorem". To achieve our objective we followed the directions of the lab and used the university of Colorado PHet online simulators and calculated speed potential and kinetic energy of a simulated skater on a half-pipe. We used the law of conservation and the equations of kinetic and potential energy to get our results. This lab taught us the law of conservation of energy theorem through explaining the transfer of energy from potential to kinetic as a simulated skateboarder goes up and down a half pipe.

Data and Calculations

Conclusion

In our objective we were supposed to "calculate the speed of a skaters at different positions along a track and determine the coefficient of friction of a surface using the conservation of energy theorem" In this lab we were able to do this by using the PHet simulator to show how the conservation of energy theorem works with a skateboarder on a half pipe. This conservation of energy works really well here because the simulator was able to show us how a skate boarder would act if there were no other forces acting on such as friction. We were able to use the equations for kinetic and gravitational to find speed and we used the equation for coefficient of friction to get our results. There were no sources of error in this experiment because it was done through a simulator. We could see that any amount of potential energy would transfer directly in kinetic energy at the bottom of the half pipe then all back to potential energy at its highest point in the air, halfway down the ramp the potential energy and kinetic energy would be equal. In the second activity we found the coefficient of friction by using the equation for coefficient of friction.