

Group Experiments - Physics I

1. Time-height relationship for a ball on an inclined plane. Measure the time T that it takes for a ball to roll down an inclined plane as a function of the height h of one end of the plane. Use the same plane (so that its length is constant) but vary the height of the top end. For each height, measure the time of the roll five (5) times, then average them. Measure five (5) heights. Plot T versus h . Can you determine what the function $T(h)$ is? It should not be a straight line.

NOTE: The height difference between the top and bottom should be measured from the center of mass of the ball when it is at the top and bottom (because that is the distance through which it falls).

NOTE 2: If you plot T versus h in Excel, do *not* let Excel draw the curve for you, *you* should estimate what you think the shape is.