PHYS 121 – Lab Report (guide)

Experiment Title: Pohl's Pendulum

Name: _____ Lab Partner(s): _____

Instructor: _____ Date: _____

Revisit the theory behind different types of oscillations

1. Free oscillation:
   Write down the 2nd order ordinary differential equation based on Newton's 2nd law and one solution (a sinusoidal function).

   What are the assumptions you need to make, from the lab, to get these results?

2. Damped oscillation:
   Write down the 2nd order ordinary differential equation based on Newton's 2nd law and one solution (a sinusoidal function).

   What are the assumptions you need to make, from the lab, to get these results?

3. Forced oscillation:
   Write down the 2nd order ordinary differential equation based on Newton's 2nd law and one solution (a sinusoidal function).

   What are the assumptions you need to make, from the lab, to get these results?

Data analysis and discussion

/*As indicated in the lab instructions document, prepare tables to record/transfer your data and do the calculations, including error analysis and fitting. It is likely that your experimental result may not match the 'theoretical prediction'. Discuss possible reasons causing the differences, including the 'assumptions' made above. Answer the questions listed at the end of the lab instruction doc.*/