

LAB REPORT 01 – MOTION 1

Format of the Lab report (graded over 10):

1) Theory 2 points

2) Procedure (2 paragraphs maximum).....1 point

3) Experimental data 3 points

This section must include:

- a. both PASCO sheets with answers to the questions

Note: DON'T ANSWER the following question of PASCO sheet 2:

“For your best attempt, how well did your plot of motion fit the plot that was already in the Graph”.

ALL OTHER QUESTIONS OF PASCO SHEET 1 AND 2 HAVE TO BE ANSWERED.

- b. Print out of your data (your experimental motion patterns).

Remarks:

- In the exercise 1 and 2 (on P01-4 and P02-4), for the question: “How long should your motion last?”

“Your motion” is defined as when you are moving the object (the lab manual) in front of the motion sensor. For instance, when you are static, this does not count as a time of motion, since you are not moving.

4) Source of errors2 points

First, you must calculate the percentage error defined as:

$$\%error = \left| \frac{Exp.value - Theo.value}{Theo.value} \right| \times 100\% \quad (Eq. 1)$$

Exp.value is your experimental value of the slope (based on the best fit)

Theo.value is the theoretical value (the slope of the given pattern)

Then, you speculate on the sources of error: what does contribute to the difference between your experimental data and the theoretical data.

5) Conclusion 2 points

• Initially, I asked you to write the sections: Objective and Description. **YOU MUST NOT WRITE THE FOLLOWING SECTIONS: 1) OBJECTIVE and 2) DESCRIPTION.** So your final report should only include 5 sections as detailed above.

• In section **4) Source of errors**, please pay attention to the expression for the percentage error (Eq. 1).