### REPORT LAB 2:

### DETERMINING GRAVITATIONAL ACCELERATION WITH A REVERSIBLE PENDULUM

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| --- | --- |
| Class: …….…. / Group: ……Team:………. | Lecturer’s comment |
| Full name:  1) ………………………………………......  2) ………………………………………......  3) ………………………………………......  4) ………………………………………......  5) ………………………………………...... |  |

**I. Aims/Purposes**

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**II. Apparatus, Methods, and Procedure**

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**III. Equations**

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**IV. Experimental data**

**Table 1:**

|  |  |  |
| --- | --- | --- |
| **Weighted position (mm)** | **50T1 (s)** | **50T2 (s)** |
| x0 = 0 mm |  |  |
| x0+40 = 40mm |  |  |
| x1 = ..................mm |  |  |

**Graph the experimental data:**



**Table 2**:

At the best position *x1'*, the physical pendulum becomes *T1= T2 = T*:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Best position *x'1* =.................................. (mm) | | | | |
| Data | 50T1 (s) | Δ (50T1) | 50T2 (s) | Δ (50T2) |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| Avg. |  |  |  |  |

**V. Calculations**

**1. Determining the oscillating period of the reversible pendulum:**

*Calculate the mean period T of the reversible pendulum from data in Table 2:*

*Random error of T:*

*Systematic error of T:*

**2. Calculating the gravitational acceleration**

*Calculate the mean value of gravitational acceleration:*

*Calculate the relative error of g*:



*Calculate the absolute error of the acceleration of gravity:*

**Conclusion:**

**VI. Answer the questions**