一、實驗數據

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | 臺南g理論值 |  |  |  |  |  |
| 27.5 | 74.2 | 978.832 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 支點 | (s) | (s) | (s) | (s) | (s) | 平均值(s) | 週期T |
|  | 20.33 | 20.33 | 20.33 | 20.33 | 20.33 | 20.33 | 2.033 |
|  | 20.32 | 20.32 | 20.32 | 20.32 | 20.32 | 20.32 | 2.032 |

A.測量法

B.曲線法

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| L | 臺南g 理論值 |  |  |  |  |  |  |  |  |
| 101.7 | 978.832 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 滑體位置 | | 10cm | 20cm | 30cm | 40cm | 50cm | 60cm | 70cm | 80cm |
| 10次週期時間 | | 20.33 | 20.26 | 20.21 | 20.18 | 20.17 | 20.19 | 20.22 | 20.28 |
| 20.33 | 20.26 | 20.21 | 20.18 | 20.18 | 20.18 | 20.22 | 20.27 |
| 20.33 | 20.26 | 20.21 | 20.18 | 20.18 | 20.18 | 20.22 | 20.28 |
| 平均(10次) | | 20.33 | 20.26 | 20.21 | 20.18 | 20.18 | 20.18 | 20.22 | 20.28 |
|  |
| T1 | | 2.033 | 2.026 | 2.021 | 2.018 | 2.018 | 2.018 | 2.022 | 2.028 |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 滑體位置 | | 10cm | 20cm | 30cm | 40cm | 50cm | 60cm | 70cm | 80cm |  |
| 10次週期時間 | | 20.36 | 20.16 | 20.05 | 19.98 | 19.97 | 20.00 | 20.07 | 20.19 |  |
| 20.34 | 20.15 | 20.04 | 19.97 | 19.97 | 20.00 | 20.07 | 20.19 |  |
| 20.34 | 20.15 | 20.04 | 19.97 | 19.97 | 19.99 | 20.06 | 20.19 |  |
| 平均(10次) | | 20.346667 | 20.15333 | 20.04333 | 19.97333 | 19.97 | 19.99667 | 20.06667 | 20.19 |  |
|  |
| T2 | | 2.0346667 | 2.015333 | 2.004333 | 1.997333 | 1.997 | 1.999667 | 2.006667 | 2.019 |  |

二、數據分析

A.測量法

百分誤差: 0.602%

B.曲線法

為兩曲線交點對應的週期，大約為2.032s

三、誤差來源與解釋

皮尺手量不准、光閘放歪、擺角太大、儀器誤差