

A Comparison of Gravitational Acceleration Measurement Methods for Undergraduate Experiment

Monday, 21 May 2018 17:45 (1 hour)

This research aimed to determine the acceleration due to gravity: g , by using a free fall, a simple pendulum, a physical pendulum and the Atwood's machine methods from an undergraduate laboratory. The experiments were designed for the student to think, analyze the data and interpret the results of an instrument using the principle of physics laboratory. In this study, the mean experimental values of acceleration due to the gravity were $9.64 \pm 0.23 \text{ m/s}^2$, $9.67 \pm 0.12 \text{ m/s}^2$, $10.88 \pm 0.96 \text{ m/s}^2$ and $10.47 \pm 1.780 \text{ m/s}^2$, respectively.

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Session Classification: A02:Physics Education (Poster)

Track Classification: Physics Education