JOHNS HOPKINS UNIVERSITY, PHYSICS AND ASTRONOMY
AS.173.115 – CLASSICAL MECHANICS LABORATORY

Moment of Inertia – Data Files

For this experiment, please choose **ONE ball of each type** (solid, hollow, and unknown) to compare.

EXCEL FILES

There are accompanying spreadsheet files that contain the heights of the top and bottom of the ramp for each of the trials that are recorded in the Logger Pro files.

$$\texttt{Heights\_XXX Ball.xlsx}$$

XXX Is the name of the ball that is being tested. This also corresponds to the .cmbl files.

There is an additional file:

$$\texttt{BallMeasurements.xlsx}$$

that provides data on each of the balls that were tested as well.

CMBL FILES

The provided `.cmbl` files that can be opened with Logger Pro.

The files follow the same general naming format:

$$\texttt{Data\_XXX Ball.cmbl}$$

XXX Is the name of the ball that is being tested. Note that there are accompanying video files that show how each of these data sets was collected.

SYSTEMATIC PHOTOGATE ERROR STUDY

Two additional data files exist:

- `Velocity Systematic Study - Double Gate.cmbl`
- `Velocity Systematic Study - Single Gate.cmbl`

These two files contain data that was collected to investigate a possible source of systematic error in the way that ball velocity was measured.