

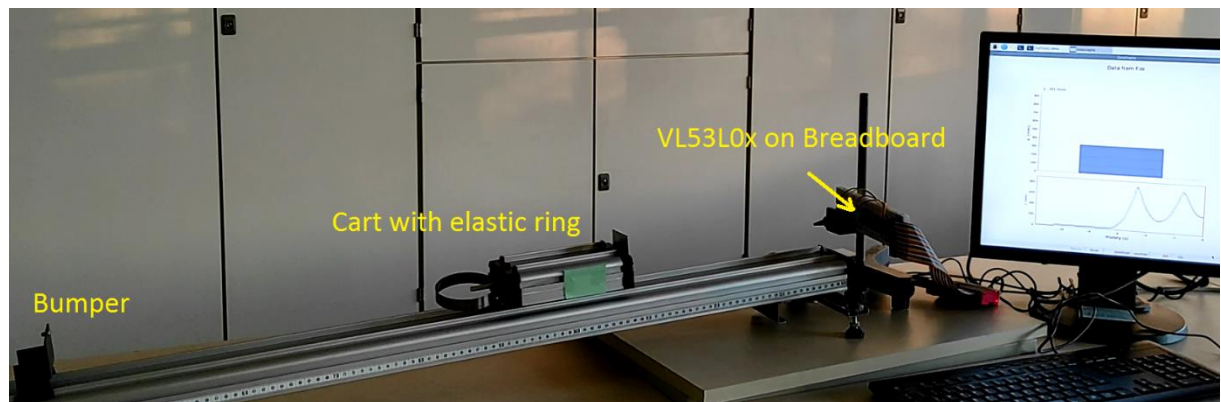
Motion on an Inclined Plane

PhyPiDAQ
Digital Measurement System Based on
Raspberry Pi



Objectives:

- Measure the position of an object against time by connecting the Time-of-Flight VL53L0X Motion Sensor connected at the Raspberry Pi.
- Use various graphical capabilities of the PhyPiDAQ-Software to compare the position-time graphs of a Cart in terms of the shape and slope as it moves up and down the inclined track.
- Employ spreadsheets like LibreOffice or Excel to analyse the position-time graphs in different phases of the motion and calculate for each of them the acceleration.



Experimental setup with the VL53L0X Distance Sensor to visualise and record the position-time graphs of a Cart as it moves up and down the inclined track. Cart's acceleration down and up the inclined plane, coefficient of friction, changing of momentum when the Cart bounces off the bumper, mechanical energies, etc. can be analysed and computed.

Procedure:

-On the Graphical Interface of the PhyPiDAQ Software one has to configure the experiment according to the [VL53L0x_postion_vs_time.daq](#)
-The Analog-to-digital convertor has to be configured according to the [VL53LxConfig.yaml](#)

Measurements:

