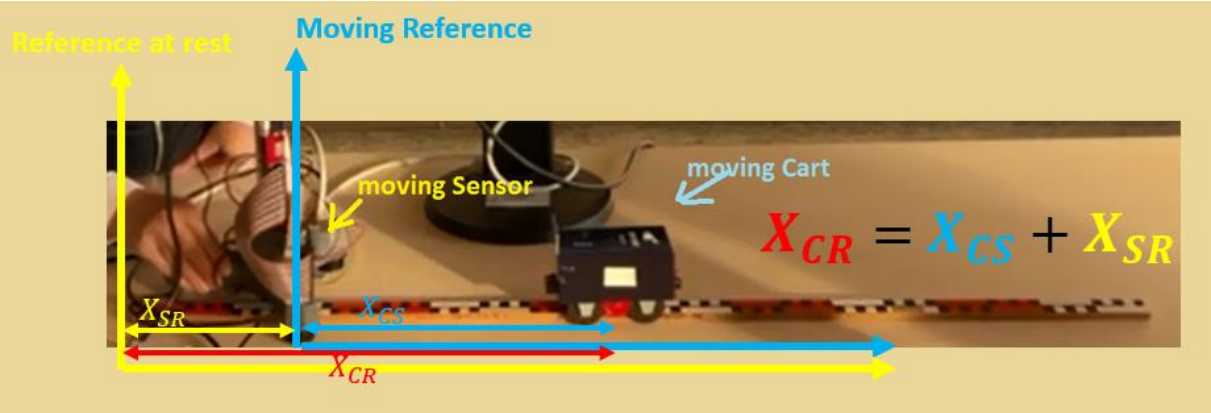
Relative Motion in One Dimension

PhyPiDAQ
Digital Measurement System Based on Raspberry Pi

Objectives:

- Measure the relative position of a Motorized Cart moving at constant velocity with respect to the Time-of-Flight VL53L0X Motion Sensor connected at the Raspberry Pi;
- Use various graphical capabilities of the PhyPiDAQ-Software to display the relative position in real-time for the Motorized Cart moving along a straight line towards or away from the Motion Sensor that can also be in motion or standstill.
- Employ spreadsheets like LibreOffice or Excel to analyse the shape and slope of relative position-time and velocity-time graphs based on the measurements stored in .csv files.

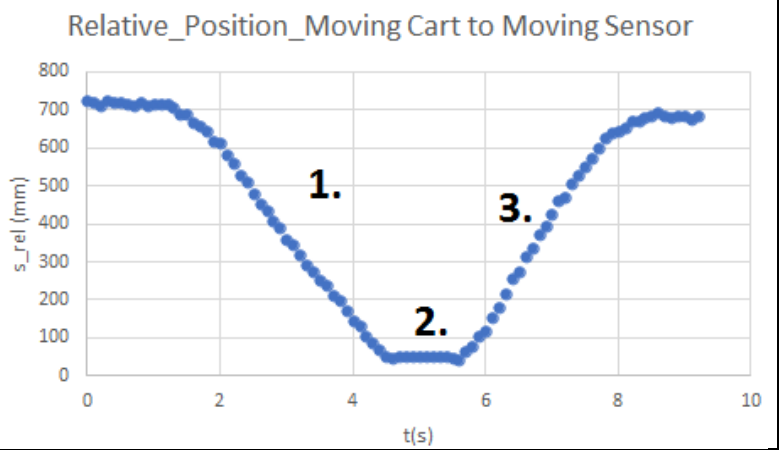


Experimental setup with the VL53L0X Distance Sensor to visualise and record the relative position-time graphs of a Cart to the Motion Sensor as they move in opposite directions towards each other, in opposite directions away from each other, and in the same direction.

Procedure:

- Configure the experiment and the ADS115-convertor on the Graphical Interface of the PhyPiDAQ Software according to VL53L0x_postion_vs_time.daq; VL53LxConfig.yaml;

Measurements:



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