

## RC Circuit with Light Dependent Resistor (LDR) Operated Switch

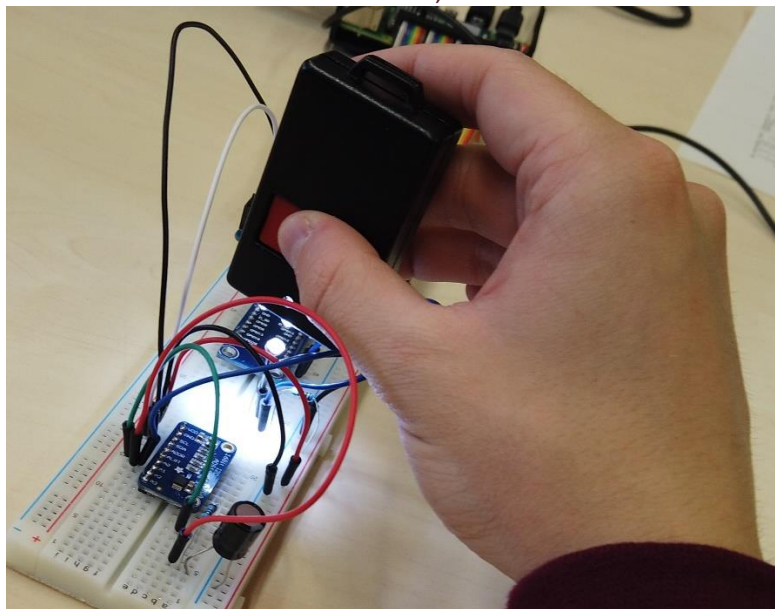
PhyPiDAQ

Digital Measurement System Based on Raspberry Pi



### Objectives:

- Build electric circuits with various resistors and capacitors connected to the Raspberry Pi by means of the Analog-to-Digital Converter ADS1115.
- Use the PhyPiDAQ-Software to record and display the voltage across the capacitor in real-time and in various graphical form;
- Employ spreadsheets like LibreOffice or Excel to process the measurements stored in .csv files to derive the time constant of a RC circuit;



*A step voltage pulse is generated at two pins of the Raspberry Pi by a light-dependent resistor (LDR) operated switch. Through the covering/uncovering of the LDR, the input signal at the GPIO-Pin-IN of the Raspberry Pi changes back and forth from a constant positive value to zero volts causing the charging and discharging of the electrolytic capacitor.*

### Configurations:

-Configure the experiment and the ADS115-converter on the Graphical Interface of the PhyPiDAQ Software according to  
[Kondensator+LDR.daq](#)  
[ADS1115Config.yaml](#)  
Run [GPIO-In\\_Out.py](#) in the background.

### Measurements:

