Energia Solar 2022/2023

Laboratory Guide: IV curves in real modules

The aim of this laboratory task is to get a perception of the impact of shadowing on a solar module IV curve and its performance.

You should check the actual irradiance, to be able to adjust the module performance to AM1.5.

You should take IV curves with different shadowing patterns:

- No Shadow
- Vertical shadow at several coverage ratios (ex: 1:2, 1:4, 1:6), of the complete module
- Horizontal shadow at several coverage ratios (ex: 1:2, 1:4, 1:6), of the complete module

You should investigate and try to explain the shape of the results, attending for example to the existence of by-pass diodes.

The following parameters should be determined and contrasted with the nominal values (when possible):

- Short circuit current,
- Open circuit voltage
- Maximum power
- Fill Factor
- Efficiency
- Characteristic resistance
- Series Resistance.

The file to be delivered (as the subject of the email) should be named as:

File name should include: SES2022_G#_LW3 (to be read as: **E**nergia **S**olar ano **2022**, **G**roup **#**, **L**ab **W**ork **3**)