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University of M'Sila

Faculty of Technology

Electrical Engineering Laboratory (LGE)

NC-REAEE'25

CERTIFICATE Of PARTICIPATION

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for presenting (**online**) a paper entitled: **Design and implementation of an electronic load for characterizing photovoltaic modules**

Authors: ***Mohammed OUINTEN, Riyadh ROUABHI, Abdelghafour HERIZI, Amor FEZZANI, Idriss HADJ MAHAMMED, Slimane BENNACER***

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Design and implementation of an electronic load for characterizing photovoltaic modules

Mohammed OUINTEN[1], Riyadh Rouabhi[1], Abdelghafour HERIZI [1], Amor FEZZANI [1]

[1]Department of Electrical Engineering, Faculty of Technology/ LGE Research Laboratory
Mohammed BOUDIAF University M'sila, Algeria

Abstract:

The manufacturers of PV modules give their current-voltage and power characteristics under standard laboratory conditions (1000 W / m² and 25 ° C). However, the PV module is intended to operate under the actual weather conditions of the installation site. So, it is desirable to have a tool that allows to measure the performance of modules on outdoor. Among these tools, there are variable electronic loads used to plot the I-V characteristic under different levels of illumination and temperature. The goal of our work is to design and produce a variable electronic load; this one is based on a microcontroller that drives a MOSFET transistor. The electronic load is tested on PV modules for different technologies, installed at URAER Ghardaïa. The results are encouraging for a future characterization of PV modules under different illuminances and temperatures.

Key word: Photovoltaic module, MOSFET, I-V / P-V curve. Electronic load. Microcontroller,