

# New Intelligent Neural Network Program Developed Based on Revolutionary Predictive Control for a System Tracking

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## Abstract

To increase the power output of a PV module or a field of PV modules, an electronic controller is incorporated between the PV generator and the load, whose role and main objective is the continuous monitoring of the maximum power point of the PV generator commonly known as MPPT (Maximum Power Point Tracking) and this in general per action on a DC-DC conversion device. The regulation and control techniques provide the impedance matching function, transferring to the load the maximum electrical power output from the PV generator in any the temperature and sunshine conditions. The development of a revolutionary method based on neural algorithms for the prediction of an instantaneous command is the main objective in our work. Indeed, the paper presents a new control strategy for the photovoltaic PV, it is a command based on Neuronal Network technique. It is the first time that this technique has been introduced, and proposed by the authors in synthesizing control laws for the converters of electronic power. The new technical algorithm based on Neural Networks, is designed to be more robust in performance with respect to tracking speed and precision. Moreover, this new successful technical research, provides a robust neural structure compared to the noisy empirical data used for the prediction of the command.

## Biography:

Dr. Wassila ISSAADI is a Doctor of Sciences in Department of Automatics, Electronics, and Electrical Engineering, University of Bejaia, Algeria and received her Doctorat (PhD) degree in September 2016 at the age of 25 years. She obtained Magister degree in 2013, and the diploma of state engineer in 2011. Her current research interests include Robotics, Automatics, adaptives and robust control, Photovoltaics and its Controls, Artificial Neural Network and Fuzzy Logic Theory. She is author of many research papers published at both International and National journals (Elsevier and IEEE), Conference proceedings. Now she works as Editor for Nova Science Publisher and Springer Publisher for four collections of Books in Robotics and Renewable Energy, and also as Guest Editor for upcoming collection for the journal of Advances in Mechanical Engineering for publisher Sage. She is an Editorial Board Member for reputed International Journals

## Publications:

1. Control of a photovoltaic system by fuzzy logic, comparative studies with conventional controls: results, improvements and perspectives
2. Management of a base station of a mobile network using a photovoltaic system
3. An Improved MPPT Converter Using Current Compensation Method for PV-Applications

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