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Conventional MPPT and a control system photovoltaic by fuzzy logic

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With the arrival of the new millennium, the debate on the energetic future of our planet has been increased, taking into account the continually increasing needs in this field and the consequences that may result in the medium term. Indeed, demographic growth and energetic requirements of industrialized societies are increasing. In addition, developing countries will need more and more energy to complete their development. Otherwise the world will be in need of new safe, clean and economical energetic source, to satisfy its needs. In fact, the solar energy is an excellent natural renewable energy source, offering great potential and can be used while respecting the environment. A significant number of MPPT control techniques have been developed since the 70s, starting with simple techniques such as MPPT controllers based on the return status of the voltage and current. In recent years more robust technical commands were associated with MPPT control such as Fuzzy Logic to increase the efficiency of the solar panels. This work presents the principle of command MPPT. Most used control technology of MPPT are reviewed and studied, such as: Observation and Disturbance (O&P), Incrementing Conductance (IC) and Fuzzy Logic. The objective of this study is the association of the command by the Fuzzy Logic to MPPT control and analyze and compare its behavior in relation to other techniques (O&P, IC) used in the control of the systems photovoltaic.

Biography

Wassila Issaadi is a young and now PhD candidate in Department of Electrical Engineering technology (Field of Automatics, Electronics and Telecommunications), University of Bejaïa and will receive her PhD degree in September, 2016 at the age of 28 years. Her current research interests include Photovoltaics and its Controls, Artificial Neural Network and Fuzzy Logic Theory. She is author of many research papers published at both National and International journals, Conference proceedings. Now she works as reviewer in renowned journals: Energy Strategy (Elsevier), International Journal of Renewable Energy Research-IJRER Cited in SCOPUS, EBSCO and Thomson Reuters and International Journal of Energy Research (Wiley) and serving as an editorial board member of repute.

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