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Empirical obtaining of photovoltaic panel models

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Photovoltaic energy is one of the most disseminated green energy sources. Its operation is based on the photovoltaic effect that takes place in photovoltaic cells, which are arranged in regular formations giving place to photovoltaic panels or modules (the commercial elements that can be acquired in a normal way). The performance of the photovoltaic panels is subject to ambient conditions as temperature and irradiance, and can be predicted using the datasheets provided by the manufacturing companies. The problem is that those parameters are generic and not adapted to a specific device. In this plenary talk the practical problem of designing an empirical and data-based model of photovoltaic panels will be addressed in a generic fashion. Besides, an instance of the faced problem will be posed and solved using a commercial photovoltaic panel, more specifically a Mitsubishi PV-TD1185MF5 device placed at the Faculty of Engineering of Vitoria-Gasteiz (University of the Basque Country, UPV/EHU, Spain).

Biography

Dr. Jose Manuel Lopez-Guede received the Ph.D. degree in Computer Sciences from Basque Country University. He got 3 investigation grants and worked in a company 4 years. Since 2004 he worked as full time Lecturer and since 2012 as Assoc. Prof. He has been involved in 24 competitive projects and published more than 150 papers, 38 on Educational Innovation and the remaining in specific research areas. He has 35 ISI JCR publications, more than 32 other journals and more than 85 conferences. He has belonged to more than 10 organizing committees of international conferences and to more than 15 scientific committees.

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