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Evolution of PV solar modules parameters

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This work aims with the effect of combined electro-thermal stresses under dark and illuminated conditions on electric and working parameters of silicon based photovoltaic cells measured after various conditions of stresses. In practice these combined stresses could lead to final degradation of solar cells and modules with creation of hot spots. In our study, a digital double exponential model of the PV cell was used to analyze experimental measurements. An inverse current and/or temperature for different stress levels simulate the effect that can occur under normal working conditions as the result of shading. The changes in PV efficiency and parameters of PV cells and modules exposed to shadow effects compared to that in normal working mode are discussed based on experimental characterizations done in the present study.

Biography

Jean Zaraket has completed his PhD in Physics: Opto-electronic and Photonic, between the Lebanese University and the University of Lorraine and he has completed his Postdoctoral from the University of Lorraine. He has published 8 papers.

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