

In this paper a solar PV system is modeled, simulated and experimentally tested. Mathematical and electrical models have first been presented. A theoretical background which introduces the topic has been presented. The system's different components have also been described. Then a simulation work of the current voltage (I-V) characteristics and efficiency by using MATLAB/IMULINK has been performed. Finally a PV system installed in the Institute of energy systems and electrical drives at the Technical University of Vienna has been tested. Many disturbances and cases like blackout, load disconnection and islanded system have been investigated. In this mainly experimental work, three test situations have been performed and the corresponding measurements have been recorded. Results that have been obtained showed that the grid connected PV system responds adequately to all the applied disturbances