Improvement of the “Perturb and Observe” MPPT Algorithm in a Photovoltaic System under Rapidly Changing Climatic Conditions

Abstract

The power delivered by a photovoltaic power system depends strongly on the level of sunlight, the cell temperature and the nature of the load supplied. It is therefore highly unpredictable. This paper presents the improvement of the MPPT algorithm Perturb and Observe (P & O) under rapidly changing climatic conditions. The results of the simulation in Simulink confirm the efficiency of the proposed method.

References

Improvement of the “Perturb and Observe” MPPT Algorithm in a Photovoltaic System under Rapidly Changing Climatic Conditions

- Dezso Sera, Remus Teodorescu, "PV panel model based on datasheet values", Aalborg University, 2006.
- D. Sera, T. Kerekes, R. Teodorescu, and F. Blaabjerg, "Improved MPPT method for rapidly changing environmental conditions", Aalborg University/Institute of Energy Technology, Aalborg, Denmark, 2006.

Index Terms
Improvement of the “Perturb and Observe” MPPT Algorithm in a Photovoltaic System under Rapidly Changing Climatic Conditions

Keywords
Photovoltaic system  Perturb and Observe MPPT algorithm  Modeling  Improvement  Simulation  Rapidly changing climatic conditions