A photovoltaic DC microgrid system

With the intermittency of a PV system, power management in a DC microgrid is an issue, but it can be addressed by using a battery energy storage system (BESS) as a backup. The goal is ...

In this paper, we introduce a proposed microgrid system with three different energy sources LIB, PV array, and fuel cells, and controlled using a MPPT controller. The three different energy sources are ...

Abstract: The increasing prominence of DC microgrids (MGs) in modern power systems necessitates effective power control and management frameworks, particularly for integrating ...

Based on the DC load characteristics of 5G base stations, this paper designs and constructs an innovative photovoltaic-storage DC power supply system. And an Adaptive t ...

To improve the voltage regulation in the system, this paper proposes a Model reference adaptive controller (MRAC) designed with MIT (Massachusetts Institute of Technology) rule. MRAC ...

This paper proposes a design methodology for standalone solar PV DC microgrids, focusing on Battery Energy Storage System (BESS) optimization and adaptive power management.

To test the feasibility of the system, we have developed a demonstration facility consisting of silicon photovoltaic (Si-PV) units, copper indium gallium (di)selenide photovoltaic (CIGS-PV) units, ...

In this paper, the photovoltaic-based DC microgrid (PVDCM) system is designed, which is composed of a solar power system and a battery connected to the common bus via a boost converter and a ...