Abstract

Photovoltaic solar energy has been gaining market share over the years due to lower prices and to a significant incentive from the government. It is a clean, static and promising energy source, and such technology has been applied to various applications. This paper presents a prototype of an automated irrigation system for later installation on the field. After the prototype development, we analyzed the use of a previously built photovoltaic microgeneration, in order to insert the electricity generated in the automated irrigation system. The photovoltaic microgeneration has an installed capacity of 2.76 kWp and a battery bank with 24 V. The integration of photovoltaic solar energy in the automated irrigation system represented a good application for family farming, minimizing water waste, besides representing the use of a renewable energy source.


Index Terms

Computer Science

Power Electronics
Keywords

Automated irrigation, Solar photovoltaic, Microgeneration, Renewable energy