



Steady-State Modeling and Control of a Microgrid Supplying Irrigation load in Toshka Area", 38th Annual IEEE Industrial Electronics Conf

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Abstract:

This paper is aimed at sizing solar-wind-battery standalone microgrid for supplying irrigation and domestic loads in Toshka area, Toshka, Egypt. Not only the MG system components but also the interconnection cables and feeders are sized. Steady-state power flow through the MG system is analysed at varying sun irradiation and wind speed. Modeling of the MG components and their control of system voltages, currents and powers are investigated. Power flows during different MG operation conditions including absence of wind and sun as well as sudden disconnection of the load are studied.

Keywords:

Hybrid Solar-Wind , Irrigation System , Toshka Area , control system , power flow

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