

عنوان مقاله:

Frequency Control in an Isolated Network in Presence of Wind Turbine/Photovoltaic/Fuel cell and Ultra-capacitor

محل انتشار:

پنجمین کنفرانس نیروگاههای برق (سال: 1391)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Mahdi taghizadeh\ - Department of Electrical Engineering, Faculty of Engineering, Shiraz university of Shiraz, Iran

Mohammad Mardaneh - shiraz university

Hamid khamoshi - k.n.toosi university - Bisetoon Power Generation Management Company. Kermanshah, Iran

خلاصه مقاله:

This paper presents a new frequency controlling method in a hybrid network in the presence of fuel cell (FC), photovoltaic (PV), wind turbine (WT) and ultra-capacitor (UC). In this study, WT and PV are the primary power sources of the system and an FC is expected to provide long-term energy balance, whereas UC is employed as a buffer storage for short-term compensation. The UC system enhances dynamic response of the FC power system in terms of response time under various load conditions. The combined operation of FC and UC provides better energy efficiency and increased lifetime for FC technology. Under this configuration, the frequency is efficiently controlled by the proposed method. In order to demonstrate capabilities of the proposed method in frequency controlling, this system is considered in various changes in weather and daily changes in the load. The simulations results show high efficiency of the proposed method with suitable frequency controlling.

کلمات کلیدی:

Frequency control, Wind turbine, Fuel cell, Photovoltaic, Ultra-capacitor, Isolated network

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/214538>

