

عنوان مقاله:

Frequency stability of IEEE standard ۱۴-bus power network by solar power plant and battery system

محل انتشار:

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خلاصه مقاله:

Sending and receiving stable electrical energy in power grids requires constant stability and maintaining grid synchronization. To maintain network synchronization and synchronous generators, different equipment is needed. The most important equipment that can prevent network instability and generators from synchronizing are stabilizers. Factors such as changes in generator output power due to load changes, types of short circuits in transmission lines (for example, two-phase or three-phase short-circuits, single-phase or two-phase short-circuits, etc.), can change the conditions in the network. Change and cause changes in frequency or voltage, and ultimately instability in the network. In this paper, we intend to dampen the instabilities that may occur in the frequency after these errors occur in an IEEE standard ۱۴-bus network. To achieve this, we will use a photovoltaic system and a battery as a stabilizer to inject or receive active power so that after creating disturbances, the frequency returns to its original state and the network does not lose its frequency stability. The results show that the proposed system operates successfully and ensures voltage and frequency stability

کلمات کلیدی:

.Frequency stability, synchronous generator, power system stabilizer, active power controller, network synchronization

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