

Can a fixed-time dynamic event-triggered secondary control control a microgrid?

Furthermore, the use of continuous communication in traditional control systems can result in technical and financial challenges. This paper introduces a fixed-time dynamic event-triggered secondary control for islanded microgrids, designed to achieve frequency restoration, voltage regulation and active power sharing within a specified timeframe.

Is a distributed secondary controller suitable for An islanded mg?

Therefore, in this research work, a distributed Secondary Controller (SC) for an islanded MG is designed considering Communication Time Delays (CTDs). Sufficient delay-independent conditions for the robust stability of a buffer-free distributed averaging proportional integral control scheme are proposed.

Can a hybrid multi-source Islanded microgrid stabilize DC bus voltage?

Conclusions In this paper, a novel power balance control method for the hybrid multi-source islanded microgrid system is adopted, which can stabilize the DC bus voltage and restore the frequency and voltage amplitude and achieve active power sharing.

What is adaptive distributed optimal control secondary control scheme under dynamic self-triggered rules?

Abstract: An adaptive distributed optimal control secondary control scheme under dynamic self-triggered rules is proposed in this paper for AC islanded microgrid to achieve the consistency of frequency, voltage and active power sharing.

This paper introduces a fixed-time dynamic event-triggered secondary control for islanded microgrids, designed to achieve frequency restoration, voltage regulation and active power ...

This paper proposed a model predictive control (MPC) secondary frequency control method considering wind and solar power generation stochastics. The extended state-space matrix ...

An adaptive distributed optimal control secondary control scheme under dynamic self-triggered rules is proposed in this paper for AC islanded microgrid to achieve the consistency of ...

A distributed control of a Microgrid (MG) depends on the communication network for the exchange of information among the Distributed Generators (DGs). Most of the control schemes ...

The proposed secondary control system was designed modeling the microgrid as a consensus control problem of multi-agents, where the uncertain disturbances from the RES, and ...

However, few studies have utilized VSG-based DGs for secondary frequency regulation owing to their stochastic power output. In this study, a model predictive control scheme integrated ...

An island-based microgrid system is developed to indicate the effectiveness of the introduced control strategy. Consider a 380 V, 50 Hz microgrid with the same structure as Fig. 4.

The RESs/DGs are given priority to participate in secondary frequency control due to the proper weighting factors being set. An islanded microgrid model consisting of multiple photovoltaic ...

Abstract--Secondary control architectures for islanded direct-current microgrids are getting interest since they are necessary to manage the voltage references in order to properly ...

A novel control strategy based on an adaptive fuzzy model predictive control for frequency regulation of a microgrid with uncertain and time-varying parameters. IEEE Access, 2022, ...

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