Microgrid variable frequency generator

In this paper, an adaptive virtual inertia control system using a fuzzy system is proposed by setting fuzzy logic rules and affiliation functions to provide adaptive inertia control for the system to ...

By adjusting two important parameters, the damping factor D and the virtual moment of inertia J, this paper proposes an optimisation method to enhance the performance of VSG. The Ant Colony ...

This controller trains itself online to choose appropriate values for these virtual parameters. The proposed method can be applied o a typical AC microgrid by considering the penetration and impact ...

This paper provides control techniques for the AC frequency and the DC voltage for an isolated/islanded hybrid AC/DC MG using intelligent virtual synchronous generators (VSGs) and ...

Hence, this paper introduces a new approach for frequency regulation in an isolated microgrid using a Fractional Order Virtual Synchronous Generator (FOVSG) which involves more ...

Voltage and frequency stability are paramount for MG operation, necessitating advanced control frameworks to regulate key parameters effectively. This research introduces a multilayer ...

This paper addresses the application of extended virtual synchronous generator to increase the inertia of interconnected microgrids, and accordingly providing frequency control support ...

To enhance the stability and frequency characteristics of a microgrid system in the grid-connected mode, a control strategy based on the improved parameter synergistic adaptive ...

Conversely, a dynamic adjustment of these virtual parameters promises robust solution with stable frequency. This paper proposes a method to adapt the inertia, damping, and droop ...

In view of the problem that the adjustment effect of the traditional PI-based frequency control method is not efficient in the asymmetric operation state of the

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