Research on harmonic resonance of microgrid

Hence, intense research about prevention and suppression of harmonic resonance, particularly the parameter feasible domain (PFD) which can keep away from harmonic resonance, ...

In this paper, the comprehensive analysis of system resonance and harmonic amplification of grid-connected inverters are presented based on the equivalent impedance model and the current control ...

It should be noticed that the current harmonic distortion is a crucial issue in the microgrid as well as voltage harmonic distortion, which must be mitigated by the proposed methods and have not yet ...

In this paper, resonance mode analysis (RMA) method is used to analysis the harmonic resonance in the microgrid. To suppress the amplified of harmonic current near resonance frequency, an improved ...

With the increasing proportion of renewable energy connected to the power grid, the harmonic resonance problem of the power grid becomes more complex. In this paper, a harmonic ...

Abstract. This paper describes the resonance introduced by harmonics amplification and adverse interaction of electronic converters. An observation of undamped oscillation leading to instability in a ...

In this paper, a micro grid resonance propagation model is investigated. To actively mitigate the resonance using DG units, an enhanced DG unit control scheme that uses the concept of virtual ...

This paper presents a novel approach for the voltage stability assessment and harmonic analysis in microgrids based on the formulation of an optimal power flow model.

This paper proposes virtual shunt filter to achieve the harmonic compensation at the point of common coupling (PCC) and virtual damping resistance to damp microgrid resonance.

The proposed approach enhances the resilience and stability of PV-based microgrids, particularly in weak and variable grids. Through this integrated approach, the study contributes a ...

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