Peer-to-Peer Control of AC Microgrids

Abstract: In peer-to-peer controlled hybrid AC/DC microgrids, the grid-connected inverters switch between different control modes with the change of the operating conditions.

This paper proposes a fully distributed peer-to-peer (P2P) control strategy for the prosumer-based islanded alternating current (AC) microgrid (MG). Prosumers would be independent ...

The peer-to-peer (P2P) control architecture is able to fully exploit the flexibility and resilience of NMGs. This paper proposes a multi-layer and multi-agent architecture to achieve P2P ...

In this paper, each distribution substation is treated as a microgrid, and the peer-to-peer distributed microgrids control is formulated as a real-time optimal power flow problem to reduce the negative ...

Abstract--This paper focuses on a fully distributed peer-to-peer control scheme for voltage regulation and reactive power sharing of multiple inverter-based distributed energy resources (DERs) in ac ...

Abstract--In this paper, the major challenges and issues in control of microgrids are discussed. The paper classifies possible microgrid control architectures from highly centralized to fully distributed ...

As many different control methods for microgrids can be found in literature, this paper proposes a classification from highly centralized to distributed peer-to-peer control...

The peer-to-peer hierarchical control method has a better control effect than the master-slave hierarchical control method. Therefore, an accurate peer-to-peer hierarchical control ...

The cooperative Peer-to-Peer (P2P) control architecture is able to fully exploit the resilience and flexibility of NRERs. This study proposes a multi-agent system to achieve P2P control of NRERs ...

In this project, we developed a leader-follower consensus (LFC) control architecture to coordinate between GFM and GFL inverters with the former being leaders and the latter being followers.

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