

IEEE Publication Summary

Title: An Oscillator Framework to Encompass Different Control Strategies for Grid-Forming Converters

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Abstract (English):

In this paper, a generic framework is proposed to unify three control techniques for grid-forming converters: Droop Control, Virtual Synchronous Machine (VSM), and Dispatchable Virtual Oscillator Control (dVOC). Although no formal stability analysis is presented, simulation results are obtained using a common benchmark system to evaluate performance in both grid-connected and islanded operation modes.

Resumo (Português):

Neste artigo, é proposto um arcabouço genérico capaz de unificar três técnicas de controle aplicadas a conversores grid-forming: Droop Control, Virtual Synchronous Machine (VSM) e Dispatchable Virtual Oscillator Control (dVOC). Embora não seja apresentada uma análise formal de estabilidade, resultados de simulação são obtidos utilizando um sistema de referência comum, permitindo avaliar o desempenho nos modos de operação conectado à rede e ilhado.

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