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Coordinated real-time control of DERs: distributed controller design and hardware-in-the-loop testsChapter 14: Power system frequency control by aggregated energy storage systemsChapter 15: Power system frequency support by grid-interactive smart buildingsChapter 16: Decentralised-distributed hybrid voltage control by inverter-based DERsChapter 17: Two-level distributed voltage/var control by aggregated PV invertersChapter 18: Event-triggered control of DERs and controller hardware-in-the-loop validationChapter 19: Three-level coordinated voltage control of DERs and power hardware-in-the-loop validation.

Sommario/riassunto

A structured research overview of techniques to manage microgrids with distributed energy resources (DERs). The focus is on coordination on both temporal and spatial scales. Chapters cover mathematical models, sizing and siting of DERs, robust optimisation, distributed coordinated control, and hardware-in-the-loop tests.