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Nota di contenuto	Part I Optimal Power Flow -- Feasibility vs. Optimality in Distributed AC OPF: A Case Study Considering ADMM and ALADIN -- Security Analysis of Embedded HVDC in Transmission Grids -- Multi-area Coordination of Security-Constrained Dynamic Optimal Power Flow in AC-DC Grids with Energy Storage -- A Domain Decomposition Approach to Solve Dynamic Optimal Power Flow Problems in Parallel -- Part II Energy System Integration -- Optimal Control of Compressor Stations in a Coupled Gas-to-Power Network -- Utilising Distributed Flexibilities in the European Transmission Grid -- Part III Managing Demand Response -- A Discussion of Mixed Integer Linear Programming Models of Thermostatic Loads in Demand Response -- Weighted FairQueuing as a Scheduling Algorithm for Deferrable Loads in Smart Grids -- Part IV

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**Sommario/riassunto**

The papers presented in this open access book address diverse challenges in decarbonizing energy systems, ranging from operational to investment planning problems, from market economics to technical and environmental considerations, from distribution grids to transmission grids, and from theoretical considerations to data provision concerns and applied case studies. While most papers have a clear methodological focus, they address policy-relevant questions at the same time. The target audience therefore includes academics and experts in industry as well as policy makers, who are interested in state-of-the-art quantitative modelling of policy relevant problems in energy systems. The 2nd International Symposium on Energy System Optimization (ISESO 2018) was held at the Karlsruhe Institute of Technology (KIT) under the symposium theme "Bridging the Gap Between Mathematical Modelling and Policy Support" on October 10th and 11th 2018. ISES0 2018 was organized by the KIT, the Heidelberg Institute for Theoretical Studies (HITS), the Heidelberg University, the German Aerospace Center and the University of Stuttgart.

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