

1. Record Nr.	UNINA9910299626403321
Autore	Yang Lei
Titolo	Spatio-Temporal Data Analytics for Wind Energy Integration // by Lei Yang, Miao He, Junshan Zhang, Vijay Vittal
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-12319-X
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (86 p.)
Collana	SpringerBriefs in Electrical and Computer Engineering, , 2191-8112
Disciplina	333.92
Soggetti	Renewable energy resources Data mining Energy policy Energy and state Energy systems Renewable and Green Energy Data Mining and Knowledge Discovery Energy Policy, Economics and Management Energy Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- A Spatio-Temporal Analysis Approach for Short-Term Forecast of Wind Farm Generation -- Support Vector Machine Enhanced Markov Model for Short-Term Wind Power Forecast -- Stochastic Optimization based Economic Dispatch and Interruptible Load Management -- Conclusions and Future Works.
Sommario/riassunto	This SpringerBrief presents spatio-temporal data analytics for wind energy integration using stochastic modeling and optimization methods. It explores techniques for efficiently integrating renewable energy generation into bulk power grids. The operational challenges of wind, and its variability are carefully examined. A spatio-temporal analysis approach enables the authors to develop Markov-chain-based short-term forecasts of wind farm power generation. To deal with the wind ramp dynamics, a support vector machine enhanced Markov model is introduced. The stochastic optimization of economic dispatch

(ED) and interruptible load management are investigated as well. Spatio-Temporal Data Analytics for Wind Energy Integration is valuable for researchers and professionals working towards renewable energy integration. Advanced-level students studying electrical, computer and energy engineering should also find the content useful.
