1. Record Nr. UNINA9910410022903321

Autore	Buchholz Bernd M
Titolo	Smart Grids : Fundamentals and Technologies in Electric Power Systems of the future / / by Bernd M. Buchholz, Zbigniew A. Styczynski
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2020
ISBN	3-662-60930-4
Edizione	[2nd ed. 2020.]
Descrizione fisica	1 online resource (XX, 408 p. 352 illus., 99 illus. in color.)
Disciplina	621.319
Soggetti	Energy systems Power electronics Renewable energy resources Energy policy Energy Systems Power Electronics, Electrical Machines and Networks Renewable and Green Energy Energy Policy, Economics and Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Vision and Strategy for the Electricity Networks of the Future -- Smart Generation – Resources and Potentials -- Modern Technologies and the Smart Grid Challenges in Transmission Networks -- Design of Distribution Networks and the Impact of New Network Users -- Smart Operation and Observability at the Transmission Level -- The 3 Pillars of Smart Distribution -- Design of the Smart Energy Market -- Advanced Information & Communication Technologies: The Backbone of Smart Grids -- Smart Grids Worldwide.
Sommario/riassunto	Nowadays, Smart Grid has become an established synonym for modern electric power systems. Electric networks are fed less and less by large, centrally planned fossil and nuclear power plants but more and more by millions of smaller, renewable and mostly weather-dependent generation units. A secure energy supply in such a sustainable and ecological system requires a completely different approach for planning, equipping and operating the electric power systems of the

future, especially by using flexibility provisions of the network users according to the Smart Grid concept. The book brings together common themes beginning with Smart Grids and the characteristics of power plants based on renewable energy with highly efficient generation principles and storage capabilities. It covers the advanced technologies applied today in the transmission and distribution networks and innovative solutions for maintaining today's high power quality under the challenging conditions of large-scale shares of volatile renewable energy sources in the annual energy balance. Besides considering the new primary and secondary technology solutions and control facilities for the transmission and distribution networks, prospective market conditions allowing network operators and the network users to gain benefits are also discussed. The growing role of information and communication technologies is investigated. The importance of new standards is underlined and the current international efforts in developing a consistent set of standards are updated in the second edition and described in detail. The updated presentation of international experiences to apply novel Smart Grid solutions to the practice of network operation concludes this book. From the Content The Smart Grid vision and strategy, the growing importance of renewable energy resources Design of Transmission and Distribution Networks and the Impact of New Network Users Smart Operation and Observability at the Transmission and Distribution Level Advanced Information and Communication Technology: The Backbone of Smart Grids Smart Grids Worldwide The Authors Dr. Bernd M. Buchholz and Prof. Dr. Zbigniew A. Styczynski worked for many years to develop Smart Grid solutions within national and international projects and to introduce them in the practice of network operations. The book contains a new foreword of Prof. Chen-Ching Liu, Director Power and Energy Center, Virginia Tech (USA).

2. Record Nr. UNINA9910557474803321

Autore	Aranha José
Titolo	Applications of Remote Sensing Data in Mapping of Forest Growing Stock and Biomass
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (276 p.)
Soggetti	Geography Research and information: general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This Special Issue (SI), entitled "Applications of Remote Sensing Data in Mapping of Forest Growing Stock and Biomass", resulted from 13 peer-reviewed papers dedicated to Forestry and Biomass mapping, characterization and accounting. The papers' authors presented improvements in Remote Sensing processing techniques on satellite images, drone-acquired images and LiDAR images, both aerial and terrestrial. Regarding the images' classification models, all authors presented supervised methods, such as Random Forest, complemented by GIS routines and biophysical variables measured on the field, which were properly georeferenced. The achieved results enable the statement that remote imagery could be successfully used as a data source for regression analysis and formulation and, in this way, used in forestry actions such as canopy structure analysis and mapping, or to estimate biomass. This collection of papers, presented in the form of a book, brings together 13 articles covering various forest issues and issues in forest biomass calculation, constituting an important work manual for those who use mixed GIS and RS techniques.