

1. Record Nr.	UNINA9910830892903321
Autore	Shahidehpour M. <1955->
Titolo	Communication and control in electric power systems : applications of parallel and distributed processing // Mohammad Shahidehpour, Yaoyu Wand
Pubbl/distr/stampa	Piscataway, New Jersey : , : IEEE, , c2003 [Piscataway, New Jersey] : , : IEEE Xplore, , [2005]
ISBN	1-280-36721-0 9786610367214 0-470-35738-X 0-471-46291-8 0-471-46292-6
Descrizione fisica	1 online resource (557 p.)
Collana	IEEE Press series on power engineering
Altri autori (Persone)	WangYaoyu
Disciplina	621.31 621.319/1
Soggetti	Electric power systems - Control Electric power systems - Communication systems Electric power systems - Load dispatching
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 (p. 503-529) and index.
Nota di contenuto	Preface. -- 1. Introduction. -- 2. Parallel and Distributed Processing of Power Systems. -- 3. Information System for Control Centers. -- 4. Common Information Model and Middleware for Integration. -- 5. Parallel and Distributed Load Flow Computation. -- 6. Parallel and Distributed Load Flow of Distribution Systems. -- 7. Parallel and Distributed State Estimation. -- 8. Distributed Power System Security Analysis. -- 9. Hierarchical and Distributed Control of Voltage/VAR. -- 10. Transmission Congestion Management Based on Multi-Agent Theory. -- 11. Integration, Control, and Operation of Distributed Generation. -- 12. Special Topics in Power System Information System. -- Appendix A. Example System Data. -- Appendix B. Measurement Data for Distributed State Estimation. -- Appendix C. IEEE-30 Bus System Data. -- Appendix D. Acronyms. -- Bibliography. -- Index.

The first extensive reference on these important techniques The restructuring of the electric utility industry has created the need for a mechanism that can effectively coordinate the various entities in a power market, enabling them to communicate efficiently and perform at an optimal level. Communication and Control in Electric Power Systems, the first resource to address its subject in an extended format, introduces parallel and distributed processing techniques as a compelling solution to this critical problem. Drawing on their years of experience in the industry, Mohammad Shahidehpour and Yaoyu Wang deliver comprehensive coverage of parallel and distributed processing techniques with a focus on power system optimization, control, and communication. The authors begin with theoretical background and an overview of the increasingly deregulated power market, then move quickly into the practical applications and implementations of these pivotal techniques. Chapters include: . Integrated Control Center Information. Parallel and Distributed Computation of Power Systems. Common Information Model and Middleware for Integration. Online Distributed Security Assessment and Control. Integration, Control, and Operation of Distributed Generation. Agent Theory and Power Systems Management. e-Commerce of Electricity A ready resource for both students and practitioners, Communication and Control in Electric Power Systems proves an ideal textbook for first-year graduate students in power engineering with an interest in computer communication systems and control center design. Designers, operators, planners, and researchers will likewise appreciate its unique contribution to the professional literature.

---