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Collana	Lecture Notes in Energy, , 2195-1284 ; ; 58
Disciplina	621.483
Soggetti	Nuclear energy Computer security Energy systems Nuclear Energy Systems and Data Security Energy Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Reactor Safety Goals -- Core Monitoring -- Description of Core Power Distribution -- Reactor Calculation Models -- Application of Trial Function -- Power Map Analysis -- Detection of Disturbances and Anomalie.
Sommario/riassunto	This book presents a comprehensive overview of the computerized core monitoring techniques currently employed at pressurized water reactor (PWR) and boiling water reactor (BWR) nuclear power plants. It also offers a brief overview of the corresponding techniques at research and materials testing reactors. The book combines detailed descriptions of the theoretical background and fundamental underlying principles as well as the practical applications of core surveillance. It not only provides numerous industrial examples to illustrate how complex computerized systems are able to support the safe operation of nuclear reactors, but also outlines some new application areas that were made possible only by state-of-the-art computing resources. Thanks to its practical approach, it serves as a valuable and practical reference book

for readers interested in the surveillance of nuclear reactors, ranging from undergraduate and postgraduate students to researchers and experts working at research reactors and nuclear power plants, as well as at nuclear regulatory authorities.

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