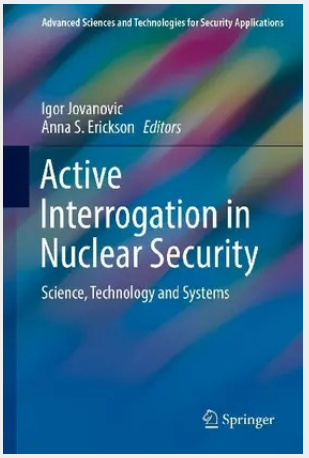
Jovanovic / Erickson

Active Interrogation in Nuclear Security

Science, Technology and Systems



- The first book devoted entirely to active interrogation
- Presents a focused review of the relevant physics
- Surveys available technology
- Analyzes scientific and technology trends
- Provides historical and policy context

This volume constitutes the state-of-the-art in active interrogation, widely recognized as indispensable methods for addressing current and future nuclear security needs. Written by a leading group of science and technology experts, this comprehensive reference presents technologies and systems in the context of the fundamental physics challenges and practical requirements. It compares the features, limitations, technologies, and impact of passive and active measurement techniques; describes radiation sources for active interrogation including electron and ion accelerators, intense lasers, and radioisotope-based sources; and it describes radiation detectors used for active interrogation. Entire chapters are devoted to data acquisition and processing systems, modeling and simulation, data interpretation and algorithms, and a survey of working active measurement systems. Active Interrogation in Nuclear Security is structured to appeal to a range of audiences, including graduate students, active researchers in the field, and policy analysts.The first book devoted entirely to active interrogationPresents a focused review of the relevant physicsSurveys available technologyAnalyzes scientific and technology trends Provides historical and policy context Igor Jovanovic is a Professor of Nuclear Engineering and Radiological Sciences at the University of Michigan and has previously also taught at Penn State University and Purdue University. He received his Ph.D. from University of California, Berkeley and worked as physicist at Lawrence Livermore National Laboratory. Dr. Jovanovic has made numerous contributions to the science and technology of radiation detection, as well as the radiation sources for use in active interrogation in nuclear security. He has taught numerous undergraduate and graduate courses in areas that include radiation detection, nuclear physics, and nuclear security. At University of Michigan Dr. Jovanovic is the director of Neutron Science Laboratory and is also associated with the Center for Ultrafast Optical Science. Anna Erickson is an Assistant Professor in the Nuclear and Radiological Engineering Program of the G.W. Woodruff School of Mechanical Engineering at Georgia Institute of Technology. Previously, she was a postdoctoral researcher in the Advanced Detectors Group at Lawrence Livermore National Laboratory. Dr. Erickson received her PhD from Massachusetts Institute of Technology with a focus on radiation detection for active interrogation applications. Her research interests focus on nuclear non-proliferation including antineutrino analysis and non-traditional detector design and characterization. She teaches courses in advanced experimental detection for reactor and nuclear nonproliferation applications, radiation dosimetry and fast reactor analysis.

171,19 €
159,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319744667
Medium: Buch
ISBN: 978-3-319-74466-7
Verlag: Springer
Erscheinungstermin: 20.06.2018
Sprache(n): Englisch
Auflage: 1. Auflage 2018
Serie: Advanced Sciences and Technologies for Security Applications
Produktform: Gebunden
Gewicht: 729 g
Seiten: 361
Format (B x H): 160 x 241 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)