nanoionics

1. Introduction to nanoionics Elements for Information Technology
2. ReRAM Cells in the Framework of Two-Terminal Devices
3. Quantum Point Contact Conduction
4. Dielectric Breakdown Processes
5. Physics and Chemistry of nanoionics Cells
6. Electroforming Processes in Metal Oxide Resistive-Switching Cells
7. Universal Switching Behaviour
8. Quasistatic and Pulse Measuring Techniques
9. Unipolar Resistive-Switching Mechanisms
10. Valence Change Observed by Nano spectroscopy and Spectro microscopy
11. Interface-Type Switching
12. Electrochemical Metallization Memories
13. Scaling Limits of nanoionics Devices
14. Integration Technology and Cell Design
15. Reliability Aspects
16. Select Device Concepts for Crossbar Arrays
17. Bottom-Up Approaches for Resistive Switching Memories
18. Switch Application in FPGA
19. ReRAM-Based Neuromorphic Computing

Textbooks

1. Resistive Switching from Fundamentals of nanoionics Redox Processes to Memristive Device Applications by Daniele Ielmini, Rainer Waser
2. Resistive Switching Oxide Materials, Mechanisms, Devices and Operations (Electronic Materials Science Technology) by Jennifer Rupp, Daniele Ielmini and Ilia Valov