

1. Record Nr.	UNISA996279743103316
Titolo	IEEE/LEOS International Conference on Optical MEMS and Nanophotonics : [proceedings]
Pubbl/distr/stampa	Piscataway, N.J., : IEEE
ISSN	2160-5041
Disciplina	621
Soggetti	Microelectromechanical systems Nanophotonics Periodicals. Conference papers and proceedings.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Periodico
2. Record Nr.	UNISALENTO991002609259707536
Autore	Chaumont, Loïc
Titolo	Exercises in probability : a guided tour from measure theory to random processes, via conditioning / Loïc Chaumont, Marc Yor
Pubbl/distr/stampa	Cambridge ; New York : Cambridge University Press, 2012
ISBN	9781107606555 (pbk.) 1107606551 (pbk.)
Edizione	[2nd ed.]
Descrizione fisica	xx, 279 p. ; 27 cm
Collana	Cambridge series in statistical and probabilistic mathematics
Classificazione	AMS 60-01 LC QA273.25.C492
Altri autori (Persone)	Yor, Marcauthor
Disciplina	519.2
Soggetti	Probabilities Probabilities - Problems, exercises, etc
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Sommario/riassunto

"Derived from extensive teaching experience in Paris, this second edition now includes over 100 exercises in probability. New exercises have been added to reflect important areas of current research in probability theory, including infinite divisibility of stochastic processes, past-future martingales and fluctuation theory. For each exercise the authors provide detailed solutions as well as references for preliminary and further reading. There are also many insightful notes to motivate the student and set the exercises in context". - Provided by publisher

3. Record Nr.

UNINA9910984634203321

Autore

Inamuddin

Titolo

Superconductors : Materials and Applications

Pubbl/distr/stampaMillersville : , : Materials Research Forum LLC, , 2022
©2022**ISBN**9781644902110
9781644902103**Edizione**

[1st ed.]

Descrizione fisica

1 online resource (266 pages)

Collana

Materials Research Foundations ; ; v.132

Lingua di pubblicazione

Inglese

Formato

Materiale a stampa

Livello bibliografico

Monografia

Nota di contenuto

Intro -- front-matter -- Table of Contents -- Preface -- 1 -- Basic Concepts and Properties of Superconductors -- 1. Introduction and background -- 2. History of superconductors -- 3. Superconductors vs perfect conductors -- 4. Phenomenon of superconductivity -- 4.1 Zero resistance -- 4.2 Super-electron -- 4.3 Critical temperature for superconductors -- 5. Classification of superconductors -- 6. Properties of superconductor -- 6.1 Evanesce of electrical resistance -- 6.2 Flux lines and diamagnetism -- 6.3 Flux quantization in superconductors -- 6.4 Quantum interference -- 6.5 Josephson current -- Conclusion -- References -- 2 -- Properties and Types of Superconductors -- 1. Introduction -- 1.1 The Meissner effect and superconductors -- 2. History of superconductors -- 3. Types of superconductors -- 3.1 Type I superconductors -- 3.1.1 Examples --

3.2 Type II superconductors -- 3.2.1 Examples -- 4. Comparisons between type I and type II superconductors -- 4.1 Meissner effect -- 4.2 Conduction of electrons -- 4.3 Surface energy -- 5. Superconducting materials -- 5.1 Metal based system superconductors -- 5.2 Copper oxides (Cuprates) -- 5.3 Iron based superconductors -- 6. Properties of superconductors -- Conclusion -- References -- 3 -- Fundamentals and Properties of Superconductors -- 1. Introduction -- 2. Types of superconductors -- 2.1 Type I and II superconductors -- 2.2 Organic superconductors -- 2.3 Magnetic superconductors -- 2.4 High temperature superconductors (HTS) -- 3. Properties of superconductors -- 3.1 Zero electric resistance -- 3.2 Meissner effect -- 3.3 Transition temperature -- 3.4 Critical current -- 3.5 Persistent currents -- 3.6 Idealized diamagnetisms, flux lines, with its quantization -- 3.7 Flux quantization -- 3.8 Josephson current -- 3.9 Josephson current in a magnetic field. 3.10 Superconducting quantum interference device (SQUID) -- 3.11 Superconductivity: A macroscopic quantum phenomenon -- 3.12 Critical magnetic field -- Conclusion -- References -- 4 -- Superconductors for Large-Scale Applications -- 1. Introduction -- 2. Meissner effect: Attribute to superconductors -- 3. Advanced power transmission system -- 4. Superconducting electrical power devices -- 5. Advanced power storage system -- 6. Modern transportation -- 7. Advanced accelerators -- 8. Magnetic resonance devices -- 8.1 Magnetic resonance imaging for medical diagnostics -- 8.2 NMR spectroscopy -- 8.3 Fast field cycle relaxometer -- 9. SQUID -- Conclusion -- References -- 5 -- Lanthanide-based Superconductor and its Applications -- 1. Introduction -- 2. Lanthanide-based superconductors -- 2.1 Preparation methods -- 2.1.1 Solid state reaction processes -- 2.1.2 Laser heating -- 2.1.3 High-pressure synthesis -- 2.2 Characterization of lanthanide-based superconductors -- 2.3 Superconducting properties of the LBSC -- 2.4 Applications of LBSC -- Conclusions -- References -- 6 -- Type I Superconductors: Materials and Applications -- 1. Introduction -- 2. Type-I superconductors -- 3. History of superconductivity -- 3.1. Quest for low temperature -- 3.2 Discovery of Helium -- 3.3 Curiosity to know the resistance of metals at absolute zero? -- 3.4 Why mercury used to measure low-temperature resistance? -- 4. Attributes of superconductors -- 4.1 Current in a superconductor coil -- 4.2 How superconductors behave in an external magnetic field? -- 4.3 Unification of electric and magnetic behaviour -- 5. Characteristics of type-I superconductors -- 5.1 Critical Temperature (TC) -- 5.2 Meissner effect or perfect diamagnetism -- 5.3 Critical magnetic field (HC) -- 5.4 Critical current (IC) -- 5.5 Isotope effect -- 5.6 Development of theories of superconductivity. 5.6.1 London equations and penetration depth -- 5.6.2 Ginzburg and Landau theory -- 5.6.3 BCS theory -- 5.7 Breakthroughs and outcomes of theoretical research -- 6. Applications -- 7. Issues with type-I superconductors -- References -- 7 -- Bulk Superconductors: Materials and Applications -- 1. Introduction -- 2. New era of high temperature superconductor -- 3. Type-II superconductors -- 4. Characteristics of type-II superconductors -- 4.1 Critical temperature (TC) -- 4.2 Critical magnetic field (HC) -- 4.3 Meissner effect or perfect diamagnetism -- 5. Different types of bulk superconductors -- 5.1 Alloys -- 5.2 Niobium alloys -- 5.3 Oxides, cuprates and ceramics -- 5.4 Fullerenes -- 6. Applications -- 6.1 Superconductor magnets and ordinary electromagnets -- 6.2 High field magnets -- 6.3 Magnetic levitation -- 6.4 Medical applications -- 6.5 Detectors -- 6.6 Josephson junctions -- Conclusion and future outlook -- Reference --

8 -- Soft Superconductors: Materials and Applications -- 1. Introduction -- 2. Type 1 Superconductors -- 3. Structural properties of superconductors -- 4. A3B structure superconductors -- 5. MMo_6X_8 & $\text{M}_2\text{A}_3\text{X}_3$ structures superconductors -- 6. Cuprate superconductors structures -- 7. Production of superconductors -- 8. Wire production -- 9. Thin films production -- 10. Superconductor applications -- Conclusion -- References -- 9 -- Oxide Superconductors -- 1. Background -- 2. Unusual properties superconducting materials and proposed theories and hypothesis -- 3. Cooper pair model -- 4. Crystal structure analysis of superconducting materials -- 5. Applications of oxide superconductor -- Conclusions -- References -- 10 -- High Temperature Superconductors: Materials and Applications -- 1. Introduction -- 2. Science of HTSC -- 3. Nickel based HTSC -- 4. HTSC for fusion reactors. 5. HTSC magnetic energy storage for power applications -- 6. HTSC materials based on bismuth -- 7. HTSC in co-axial magnetic gear -- Conclusions -- References -- 11 -- Superconducting Metamaterials and their Applications -- 1. Superconducting materials -- 2. Metamaterials -- 2.1 Low loss metamaterials -- 2.2 Scaling of SRR properties -- 2.3 Scaling of wire array properties -- 3. Novel superconducting metamaterial implementations -- 3.1 Ferromagnet-superconductor composites -- 3.2 DC magnetic superconducting metamaterials -- 3.3 SQUID metamaterials -- 4. Superconducting photonic crystal -- 5. Thin film superconducting metamaterial -- 6. Advantages of metamaterials -- 6.1 Compact superconducting materials -- 6.2 Tuneability and nonlinearity -- 6.3 Implementations of superconducting metamaterials -- 7. Novel applications -- Conclusion -- References -- 12 -- Superconductors for Medical Applications -- 1. Introduction -- 2. Medical applications -- 2.1 Magnetic resonance imaging (MRI) -- 2.1.1 Quench protection design of MRI superconducting magnet -- 2.1.2 Open MRI superconducting magnet -- 2.1.3 MRI food inspection system -- 2.2 Magnetic gene transfer -- 2.3 Magnetic drug delivery system -- 2.4 Cancer and internal hemorrhage detection -- Conclusions -- References -- back-matter -- Keyword Index -- About the Editors -- Superconductors for Magnetic Imaging Resonance Applications -- 1. Introduction -- 2. History of superconductor materials for MRI -- 2.1 Liquid helium free SN_2 high-temperature superconductor magnet -- 2.2 Bismuth strontium calcium copper oxide ($\text{Bi}_2\text{223}$): First SN_2 -HTS magnet -- 2.3 Magnesium diboride superconductors -- 2.3.1 Challenges and prospects for MgB_2 MRI magnets -- 3. Potential superconductors for MRIs -- 3.1 Nb-Ti and Nb_3Sn superconductors -- 3.2 Copper based superconductors. 3.3 Rare - earth barium copper oxide superconductors (REBCO) -- 3.4 MgB_2 superconductors -- 3.5 Iron-based superconductors (IBS) -- 4. Materials' and their applications' prospects in the future -- Conclusion -- References.

Sommario/riassunto

The book presents the current status of superconductor science and technology.
