1. Record Nr. UNICAMPANIAVAN0167894

Autore	Trügler, Andreas
Titolo	Optical Properties of Metallic Nanoparticles : Basic Principles and Simulation / Andreas Trügler
Pubbl/distr/stampa	Cham, : Springer, 2016
Titolo uniforme	Optical Properties of Metallic Nanoparticles : Basic Principles and Simulation
Descrizione fisica	xix, 217 p. : ill. ; 24 cm
Soggetti	81-XX - Quantum theory [MSC 2020] 78-XX - Optics, electromagnetic theory [MSC 2020] 81V10 - Electromagnetic interaction; quantum electrodynamics [MSC 2020] 78A48 - Composite media; random media in optics and electromagnetic theory [MSC 2020] 78A15 - Electron optics [MSC 2020] 81V19 - Other fundamental interactions in quantum theory [MSC 2020]
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910842601103321

Autore	Yang Fu-Bao
Titolo	Diffusionics : Diffusion Process Controlled by Diffusion Metamaterials / / by Fu-Bao Yang, Ji-Ping Huang
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2024
ISBN	981-9704-87-1
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (XV, 284 p. 99 illus., 98 illus. in color.)
Disciplina	536.7
Soggetti	Thermodynamics Thermoelectric materials Heat engineering Heat transfer Mass transfer Statistical Physics Condensed matter Building materials Thermoelectrics Engineering Thermodynamics, Heat and Mass Transfer Condensed Matter Physics Structural Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Effective Medium Theory for Thermal Conduction in Thermophysics -- Chapter 2. Thermal Stealth Technology: From Theoretical Exploration to Engineering Practice -- Chapter 3. Spatial and temporal modulation of thermoelectric metamaterials -- Chapter 4. Heat transfer in porous materials -- Chapter 5. Non-Hermitian physics and topological phenomena in convective thermal metamaterials -- Chapter 6. Beyond Traditional Thermal Convection: Exploration and Application of Spatiotemporal Modulation in Thermal Metamaterials -- Chapter 7. Thermal Metamaterials for Temperature Maintenance: From Advances in Heat Conduction to Future Convection Prospects -- Chapter 8. Diffusion metamaterials for manipulating

conduction and radiation -- Chapter 9. Metamaterials for thermal diffusion: Controlling Radiation and Conduction Simultaneously -- Chapter 10. Thermal metamaterials for controlling thermal conduction, convection and radiation -- Chapter 11. Controlling Multiple Heat Transfer Modalities with Omnithermal Metamaterials -- Chapter 12. Enhancing Thermal Diffusion with Metamaterials: Exploring Omnithermal Restructurable Metasurfaces -- Chapter 13. Geometric Phases in Particle Diffusion: Theory and Modern Applications -- Chapter 14. Particle diffusion process with artificial control: Diffusion metamaterials -- Chapter 15. Diffusion metamaterials for plasma transport.

Sommario/riassunto

This open access book presents a comprehensive exploration of diffusion metamaterials that control energy and mass diffusion. Currently, if from the perspective of governing equations, diffusion metamaterials and wave metamaterials (pioneered by J. B. Pendry in the 1990s) are recognised as the two most prominent branches in the field of metamaterials. These two branches differ in their emphasis on the diffusion equation (as the governing equation) and time-dependent characteristic lengths in diffusion metamaterials, as opposed to the wave equation (as the governing equation) and time-independent characteristic lengths in wave metamaterials. Organized into three distinct parts – 'Thermal Diffusion Metamaterials', 'Particle Diffusion Metamaterials', and 'Plasma Diffusion Metamaterials' – this book offers a rigorous exploration spanning physics, engineering, and materials science, aimed at advancing our understanding of diffusion processes controlled by diffusion metamaterials. Incorporating foundational theory, computational simulations, and laboratory experiments, the book equips researchers and scholars across these disciplines with comprehensive methods, insights, and results pivotal to the advancement of diffusion control. Beyond facilitating interdisciplinary discourse, the book serves as a catalyst for innovative breakthroughs at the crossroads of physics, thermodynamics, and materials science. Essentially, readers will acquire profound insights that empower them to spearhead advancements in diffusion science (diffusionics) and the engineering of metamaterials.