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Titolo	Amorphous Nanophotonics [[electronic resource] /] / edited by Carsten Rockstuhl, Toralf Scharf
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Descrizione fisica	1 online resource (379 p.)
Collana	Nano-Optics and Nanophotonics, , 2192-1970
Disciplina	621.36 621.36/5 621.365
Soggetti	Nanoscale science Nanoscience Nanostructures Optical materials Electronic materials Nanotechnology Physics Optics Electrodynamics Nanoscale Science and Technology Optical and Electronic Materials Nanotechnology and Microengineering Applied and Technical Physics Classical Electrodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Dielectric amorphous photonics materials and structures -- Photonic quasi-crystals -- Solar cells with scattering and nanostructures -- Disordered photonic crystals -- Light localization in dielectric media -- Amorphous plasmonics -- Fabrication methods -- Structural characterization techniques -- Numerical means to describe optics in

amorphous media -- Analytical and quasi-analytical treatment -- Homogenization techniques and the problem of how to deal with different length scales -- Electromagnetic characterization techniques -- New physical (electromagnetic) phenomena emerging due to irregularities of nanostructures -- Implementing applications of fabricated structures -- Analogies to other branches of physics.

Sommario/riassunto

This book represents the first comprehensive overview over amorphous nano-optical and nano-photonic systems. Nanophotonics is a burgeoning branch of optics that enables many applications by steering the mould of light on length scales smaller than the wavelength with devoted nanostructures. Amorphous nanophotonics exploits self-organization mechanisms based on bottom-up approaches to fabricate nano-optical systems. The resulting structures presented in the book are characterized by a deterministic unit cell with tailored geometries; but their spatial arrangement is not controlled. Instead of periodic, the structures appear either amorphous or random. The aim of this book is to discuss all aspects related to observable effects in amorphous nanophotonic material and aspects related to their design, fabrication, characterization and integration into applications. The book has an interdisciplinary nature with contributions from scientists in physics, chemistry and materials sciences and sheds light on the topic from many directions.
