1. Record Nr. UNINA9910480168503321

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Titolo	Self-Trapped Excitons [[electronic resource] /] / by K.S. Song, Richard T. Williams
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1996
ISBN	3-642-85236-X
Edizione	[2nd ed. 1996.]
Descrizione fisica	1 online resource (XIV, 410 p. 7 illus., 2 illus. in color.)
Collana	Springer Series in Solid-State Sciences, , 0171-1873 ; ; 105
Disciplina	530.4/16
Soggetti	Optical materials Electronic materials Condensed matter Lasers Photonics Physical chemistry Optical and Electronic Materials Condensed Matter Physics Optics, Lasers, Photonics, Optical Devices Physical Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"With 219 figures."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1 Introduction -- 1.1 Excitons -- 1.2 Charge Carriers and Excitons in a Deformable Lattice -- 1.3 Scope of this Monograph -- 2 Investigation of Self-Trapped Excitons from a Defect Perspective -- 2.1 Atomistic Structure of Self-Trapped Carriers -- 2.2 Self-Trapped Excitons -- 2.3 Experimental Methods -- 2.4 Theoretical Methods -- 3 Condensed Rare Gases -- 3.1 Electronic Structure -- 3.2 Spectroscopy -- 3.3 Theory of the Self-Trapped Exciton in Rare-Gas Solids -- 3.4 Desorption from the Surface -- 4 Alkaline Earth Fluorides -- 4.1 Electronic Structure -- 4.2 Lattice Defects -- 4.3 Theory of Self-Trapped Excitons in Fluorite Crystals -- 4.4 Spectroscopy -- 4.5 Lattice Defect Formation -- 5 Alkali Halides -- 5.1 Material Properties -- 5.2 Theory of Self-Trapped Exciton Structure -- 5.3 Luminescence -- 5.4 Magneto-Optics, ODMR, and ODENDOR -- 5.5 Excited-State

Absorption -- 5.6 Resonant Raman Scattering -- 5.7 Dynamics -- 5.8 Kinetics -- 6 Defect Formation in Alkali Halide Crystals -- 6.1 Self-Trapped Excitons as Nascent Defect Pairs -- 6.2 Thermally Activated Conversion -- 6.3 Dynamic Conversion Process -- 6.4 Stabilization of the Primary Defects -- 6.5 Defects and Desorption at Surfaces -- 7 Silicon Dioxide -- 7.1 Material Properties -- 7.2 Theory of Self-Trapped Excitons -- 7.3 Experiments on Crystalline SiO2 -- 7.4 Experiments on Amorphous SiO2 -- 7.5 Self-Trapped Holes in SiO2 -- 7.6 Defect Generation Processes -- 8 Simple Organic Molecular Crystals -- 8.1 Material Properties -- 8.2 Pyrene -- 8.3 Anthracene -- 8.4 Perylene -- 9 Silver Halides -- 9.1 Electronic Structure and Exciton Spectra -- 9.2 Self-Trapped Hole in AgCl -- 9.3 Self-Trapped Exciton in AgCl -- 10 As2Se3 and Other Chalcogenides -- 10.1 Structure and Electronic States of As2Se3 -- 10.2 The Self-Trapped Exciton -- 10.3 Spectroscopy -- 10.4 STE to Defect Conversion in Amorphous Chalcogenides -- 10.5 Spectroscopy in Crystalline Trigonal Selenium -- 11 Other Materials, Extrinsic Self-Trapping, and Low-Dimensional Systems -- 11.1 Ammonium Halides -- 11.2 KMgF3 and Related Perovskites -- 11.3 Alkaline-Earth Fluorohalides -- 11.4 Alkali Silver Halides -- 11.5 LiYF4 -- 11.6 Extrinsic Self-Trapping in ZnSeTex -- 11.7 Quasi-One-Dimensional Systems -- References.

Sommario/riassunto

Self-Trapped Excitons discusses the structure and evolution of the self-trapped exciton (STE) in a wide range of materials. It includes a comprehensive review of experiments and extensive tables of data. Emphasis is given throughout to the unity of the basic physics underlying various manifestations of self-trapping, with the theory being developed from a localized, atomistic perspective. The topics treated in detail in relation to STE relaxation include spontaneous symmetry breaking, lattice defect formation, radiation damage, and electronic sputtering.

2. Record Nr. UNINA9910299754603321

Autore	Lewis Ted G
Titolo	Book of Extremes : Why the 21st Century Isn’t Like the 20th Century / / by Ted G. Lewis
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Copernicus, , 2014
ISBN	3-319-06926-8
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (190 p.)
Disciplina	531.1133 620 621 900
Soggetti	Computational complexity Statistical physics Physics History Complexity Applications of Nonlinear Dynamics and Chaos Theory Applications of Graph Theory and Complex Networks History, general
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Waves -- Flashes -- Sparks -- Booms -- Bubbles -- Shocks -- Xtremes -- Bombs -- Leaps -- Transitions.
Sommario/riassunto	What makes the 21st century different from the 20th century? This century is the century of extremes -- political, economic, social, and global black-swan events happening with increasing frequency and severity. Book of Extremes is a tour of the current reality as seen through the lens of complexity theory – the only theory capable of explaining why the Arab Spring happened and why it will happen again; why social networks in the virtual world behave like flashmobs in the physical world; why financial bubbles blow up in our faces and will grow and burst again; why the rich get richer and will continue to get

richer regardless of governmental policies; why the future of economic wealth and national power lies in comparative advantage and global trade; why natural disasters will continue to get bigger and happen more frequently; and why the Internet – invented by the US -- is headed for a global monopoly controlled by a non-US corporation. It is also about the extreme innovations and heroic innovators yet to be discovered and recognized over the next 100 years.Complexity theory combines the predictable with the unpredictable. It assumes a nonlinear world of long-tailed distributions instead of the classical linear world of normal distributions. In the complex 21st century, almost nothing is linear or normal. Instead, the world is highly connected, conditional, nonlinear, fractal, and punctuated. Life in the 21st century is a long-tailed random walk – Levy walks -- through extreme events of unprecedented impact. It is an exciting time to be alive.