

1. Record Nr.	UNINA9910451692303321
Autore	Girifalco L. A (Louis A.)
Titolo	Statistical mechanics of solids [[electronic resource] /] / Louis A. Girifalco
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, 2000
ISBN	1-280-52982-2 9786610529827 0-19-802811-3 1-4294-0376-4
Descrizione fisica	1 online resource (536 p.)
Collana	Monographs on the physics and chemistry of materials ; ; 58
Disciplina	530.4/1
Soggetti	Solids - Mathematical models Statistical mechanics Electronic books.
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 (p. 505-508) and index.
Nota di contenuto	Contents; 1 The Basics of Thermodynamics; 2 Principles of Statistical Mechanics; 3 Particle Statistics; 4 The Harmonic Crystal; 5 Anharmonic Properties and the Equation of State; 6 Free Electron Theory in Metals and Semiconductors; 7 Statistical-Kinetic Theory of Electron Transport; 8 Order-Disorder Alloys; 9 Magnetic Order; 10 Phase Equilibria; 11 Critical Exponents and the Renormalization Group; 12 Surfaces and Interfaces; 13 The Theory of Random Flight; 14 Linear Polymer Chains; 15 Vacancies and Interstitials in Monatomic Crystals; 16 Point Defects in Dilute Alloys 17 Diffusion in Simple Crystals Appendix 1 Combinatorial Problems in Statistical Mechanics; Appendix 2 The Method of Undetermined Multipliers; Appendix 3 Stirling's Approximation; Appendix 4 Sums and Integrals; Appendix 5 Fermi Integrals; Appendix 6 Kirkwood's Second Moment; Appendix 7 The Generalized Lattice Gas; Appendix 8 Dyadics and Crystal Symmetry; Additional Readings; Index
Sommario/riassunto	Suitable for use as an advanced text, this monograph presents the statistical mechanics of solids from the perspective of the material properties of the solid state.

2. Record Nr.	UNINA9910451637403321
Autore	Tang Yuan Yan
Titolo	Document analysis and recognition with wavelet and fractal theories [[electronic resource] /] / Yuan Yan Tang
Pubbl/distr/stampa	Singapore, : World Scientific Pub. Co., 2012
ISBN	981-4401-01-3
Descrizione fisica	1 online resource (373 p.)
Collana	Series in machine perception and artificial intelligence ; ; v. 79
Disciplina	515 515.2433
Soggetti	Wavelets (Mathematics) Fractals Electronic books.
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	Contents; Preface; Chapter 1 Basic Concepts of Document Analysis and Understanding; 1.1 Introduction.; 1.2 Basic Model of Document Processing; 1.3 Document Structures; 1.3.1 Strength of Structure; 1.3.2 Geometric Structure; 1.3.2.1 Geometric Complexity; 1.3.3 Logical Structure; 1.4 Document Analysis; 1.4.1 Hierarchical Methods; 1.4.1.1 Top-Down Approach; 1.4.1.2 Bottom-Up Approach; 1.4.2 No-Hierarchical Methods; 1.4.2.1 Modified Fractal Signature; 1.4.2.2 Order Stochastic Filtering; 1.4.3 Web Document Analysis; 1.5 Document Understanding 1.5.1 Document Understanding Based on Tree Transformation 1.5.2 Document Understanding Based on Formatting Knowledge; 1.5.3 Document Understanding Based on Description Language; 1.6 Form Document Processing; 1.6.1 Characteristics of Form Documents; 1.6.2 Wavelet Transform Approach; 1.6.3 Approach Based on Form Description Language; 1.6.4 Form Document Processing Based on Form Registration; 1.6.5 Form Document Processing System; 1.7 Character Recognition and Document Image Processing; 1.7.1 Handwritten and Printed Character Recognition 1.7.1.1 Extracting Multiresolution Features in Recognition of Handwritten Numerals with 2-D Haar Wavelet 1.7.1.2 Recognition of Printed Kannada Text in Indian Languages; 1.7.1.3 Wavelet Descriptors

of Handprinted Characters; 1.7.2 Document Image Analysis Based on Multiresolution Hadamard Representation (MHR); 1.8 Major Techniques; 1.8.1 Hough Transform.; 1.8.2 Techniques for Skew Detection; 1.8.3 Projection Profile Cuts; 1.8.4 Run-Length Smoothing Algorithm (RLSA); 1.8.5 Neighborhood Line Density (NLD); 1.8.6 Connected Components Analysis (CCA); 1.8.7 Crossing Counts
1.8.8 Form Definition Language (FDL) 1.8.9 Texture Analysis - Gabor Filters; 1.8.10 Wavelet Transform; 1.8.11 Other Segmentation Techniques; Chapter 2 Basic Concepts of Fractal Dimension; 2.1 Definitions of Fractals; 2.2 Hausdorff Dimension; 2.2.1 Hausdorff Measure; 2.2.2 Hausdorff Dimension; 2.2.3 Examples of Computing Hausdorff Dimension; 2.3 Box Computing Dimension; 2.3.1 Dimensions; 2.3.2 Box Computing Dimension; 2.3.3 Minkowski Dimension; 2.3.4 Properties of Box Counting Dimension; 2.4 Basic Methods for Calculating Dimensions; Chapter 3 Basic Concepts of Wavelet Theory
3.1 Continuous Wavelet Transforms 3.1.1 General Theory of Continuous Wavelet Transforms; 3.1.2 The Continuous Wavelet Transform as a Filter; 3.1.3 Description of Regularity of Signal by Wavelet; 3.1.4 Some Examples of Basic Wavelets; 3.2 Multiresolution Analysis (MRA) and Wavelet Bases; 3.2.1 Multiresolution Analysis; 3.2.1.1 Basic Concept of MRA; 3.2.1.2 The Solution of Two-Scale Equation; 3.2.2 The Construction of MRAs; 3.2.2.1 The Biorthonormal MRA; 3.2.2.2 Examples of Constructing MRA; 3.2.3 The Construction of Biorthonormal Wavelet Bases; 3.2.4 S.Mallat Algorithms
Chapter 4 Document Analysis by Fractal Dimension

Sommario/riassunto

Many phenomena around the research in document analysis and understanding are much better described through the powerful multiscale signal representations than by traditional ways. From this perspective, the recent emergence of powerful multiscale signal representations in general and fractal/wavelet basis representations in particular, has been particularly timely. Indeed, out of these theories arise highly natural and extremely useful representations for a variety of important phenomena in document analysis and understanding. This book presents both the development of these new approaches as
