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Titolo	Surface and Thin Film Analysis : A Compendium of Principles, Instrumentation and Applications
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Nota di contenuto	Surface and Thin Film Analysis: A Compendium of Principles, Instrumentation, and Applications; Contents; Preface to the First Edition; Preface to the Second Edition; List of Contributors; 1: Introduction; Part One: Electron Detection; 2: X-Ray Photoelectron Spectroscopy (XPS); 2.1 Principles; 2.2 Instrumentation; 2.2.1 Vacuum Requirements; 2.2.2 X-Ray Sources; 2.2.3 Synchrotron Radiation; 2.2.4 Electron Energy Analyzers; 2.2.5 Spatial Resolution; 2.3 Spectral Information and Chemical Shifts; 2.4 Quantification, Depth Profiling, and Imaging; 2.4.1 Quantification; 2.4.2 Depth Profiling 2.4.3 Imaging2.5 The A uger Parameter; 2.6 Applications; 2.6.1 Catalysis; 2.6.2 Polymers; 2.6.3 Corrosion and Passivation; 2.6.4 Adhesion; 2.6.5 Superconductors; 2.6.6 Semiconductors; 2.7 Ultraviolet Photoelectron Spectroscopy (UPS); References; 3: Auger Electron Spectroscopy (AES); 3.1 Principles; 3.2 Instrumentation; 3.2.1 Vacuum Requirements; 3.2.2 Electron Sources; 3.2.3 Electron-Energy Analyzers; 3.3 Spectral Information; 3.4 Quantification and Depth Profiling; 3.4.1 Quantification; 3.4.2 Depth Profiling; 3.5 Applications; 3.5.1 Grain

Boundary Segregation; 3.5.2 Semiconductor Technology
3.5.3 Thin Films and Interfaces3.5.4 Surface Segregation; 3.6 Scanning A uger Microscopy (SAM); References; 4: Electron Energy-Loss Spectroscopy (EELS) and Energy-Filtering Transmission Electron Microscopy (EFTEM); 4.1 Principles; 4.2 Instrumentation; 4.3 Qualitative Spectral Information; 4.3.1 Low-Loss Excitations; 4.3.2 Ionization Losses; 4.3.3 Fine Structures; 4.4 Quantification; 4.5 Imaging of Element Distribution; 4.6 Summary; References; 5: Low-Energy Electron Diffraction (LEED); 5.1 Principles and History; 5.2 Instrumentation; 5.3 Qualitative Information; 5.3.1 LEED Pattern
5.3.2 Spot Profile Analysis5.3.3 Applications and Restrictions; 5.4 Quantitative Structural Information; 5.4.1 Principles; 5.4.2 Experimental Techniques; 5.4.3 Computer Programs; 5.4.4 Applications and Restrictions; 5.5 Low-Energy Electron Microscopy; 5.5.1 Principles of Operation; 5.5.2 Applications and Restrictions; References; 6: Other Electron-Detecting Techniques; 6.1 Ion (Excited) Auger Electron Spectroscopy (IAES); 6.2 Ion Neutralization Spectroscopy (INS); 6.3 Inelastic Electron Tunneling Spectroscopy (IETS); Reference; Part Two: Ion Detection
7: Static Secondary Ion Mass Spectrometry (SSIMS)7.1 Principles; 7.2 Instrumentation; 7.2.1 Ion Sources; 7.2.2 Mass Analyzers; 7.2.2.1 Quadrupole Mass Spectrometers; 7.2.2.2 Time-of-Flight Mass Spectrometry (TOF-MS); 7.3 Quantification; 7.4 Spectral Information; 7.5 Applications; 7.5.1 Oxide Films; 7.5.2 Interfaces; 7.5.3 Polymers; 7.5.4 Biosensors; 7.5.5 Surface Reactions; 7.5.6 Imaging; 7.5.7 Ultra-Shallow Depth Profiling; References; 8: Dynamic Secondary Ion Mass Spectrometry (SIMS); 8.1 Principles; 8.1.1 Compensation of Preferential Sputtering; 8.1.2 Atomic Mixing
8.1.3 Implantation of Primary Ions

Sommario/riassunto

Surveying and comparing all techniques relevant for practical applications, this second edition of a bestseller is a vital guide to this hot topic in nano- and surface technology. Completely revised and updated, sections include electron, ion and photon detection, as well as scanning microscopy, while new chapters have been added to cover such recently developed techniques as SNOM, SERS, and laser ablation. Over 500 references and a list of equipment suppliers make this a rapid reference for materials scientists, analytical chemists, and those working in the biotechnological industry.

2. Record Nr. UNINA9910143855403321

Titolo	Computer Science Logic : 17th International Workshop, CSL 2003, 12th Annual Conference of the EACSL, and 8th Kurt Gödel Colloquium, KGC 2003, Vienna, Austria, August 25-30, 2003, Proceedings / / edited by Matthias Baaz, Johann M. Makowsky
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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 2803
Disciplina	005.1/01/5113
Soggetti	Logic, Symbolic and mathematical Computer logic Artificial intelligence Mathematical Logic and Formal Languages Science, Humanities and Social Sciences, multidisciplinary Logics and Meanings of Programs Artificial Intelligence Mathematical Logic and Foundations
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Nota di contenuto	Deciding Monotonic Games -- The Commuting V-Diagram -- Concurrent Construction of Proof-Nets -- Back to the Future: Explicit Logic for Computer Science -- Constraint Satisfaction with Countable Homogeneous Templates -- Quantified Constraints: Algorithms and Complexity -- Verification of Infinite State Systems -- Parity of Imperfection or Fixing Independence -- Atomic Cut Elimination for Classical Logic -- Computational Mathematics, Computational Logic, and Symbolic Computation -- Simple Stochastic Parity Games -- Machine Characterizations of the Classes of the W-Hierarchy -- Extending the Dolev-Yao Intruder for Analyzing an Unbounded Number of Sessions -- On Relativisation and Complexity Gap for Resolution-Based Proof Systems -- Strong Normalization of the Typed ? ws -

Calculus -- A Fixed-Point Logic with Symmetric Choice -- Positive Games and Persistent Strategies -- Generating All Abductive Explanations for Queries on Propositional Horn Theories -- Refined Complexity Analysis of Cut Elimination -- Comparing the Succinctness of Monadic Query Languages over Finite Trees -- The Arithmetical Complexity of Dimension and Randomness -- Towards a Proof System for Admissibility -- Program Complexity of Dynamic LTL Model Checking -- Coping Polynomially with Numerous but Identical Elements within Planning Problems -- On Algebraic Specifications of Abstract Data Types -- On the Complexity of Existential Pebble Games -- Computational Aspects of ?-Definability over the Real Numbers without the Equality Test -- The Surprising Power of Restricted Programs and Gödel's Functionals -- Pebble Games on Trees -- Bistability: An Extensional Characterization of Sequentiality -- Automata on Lempel-Ziv Compressed Strings -- Complexity of Some Problems in Modal and Intuitionistic Calculi -- Goal-Directed Calculi for Gödel-Dummett Logics -- A Logic for Probability in Quantum Systems -- A Strongly Normalising Curry-Howard Correspondence for IZF Set Theory -- The Epsilon Calculus -- Modular Semantics and Logics of Classes -- Validity of CTL Queries Revisited -- Calculi of Meta-variables -- Henkin Models of the Partial ?-Calculus -- Nominal Unification -- Friends or Foes? Communities in Software Verification -- More Computation Power for a Denotational Semantics for First Order Logic -- Effective Model Completeness of the Theory of Restricted Pfaffian Functions -- Effective Quantifier Elimination over Real Closed Fields -- Fast Infinite-State Model Checking in Integer-Based Systems -- Winning Strategies and Synthesis of Controllers -- Logical Relations for Dynamic Name Creation.

Sommario/riassunto

This book constitutes the joint refereed proceedings of the 17th International Workshop on Computer Science Logic, CSL 2003, held as the 12th Annual Conference of the EACSL and of the 8th Kurt Gödel Colloquium, KGC 2003 in Vienna, Austria, in August 2003. The 30 revised full papers presented together with abstracts of 9 invited presentations were carefully reviewed and selected from a total of 112 submissions. All current aspects of computer science logic are addressed ranging from mathematical logic and logical foundations to the application of logics in various computing aspects.