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Titolo	Nitrides with nonpolar surfaces : growth, properties, and devices // edited by Tanya Paskova
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Descrizione fisica	1 online resource (460 p.)
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Soggetti	Nitrides Nitrides - Electric properties Crystal growth Electronic books.
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Nitrides with Nonpolar Surfaces; Contents; Preface; List of Contributors; Color Plates; Introduction; 1 Nitride Materials and Devices with Nonpolar Surfaces: Development and Prospects; 1.1 Introduction; 1.2 Historical Survey of Nonpolar Nitride Growth Achievements; 1.3 Nonpolar Nitrides Today - Key Properties and Challenges; 1.3.1 Morphology; 1.3.2 Microstructure; 1.3.3 Strain; 1.3.4 Optical Properties; 1.3.5 Optical Phonons; 1.3.6 Electrical Properties; 1.4 Nonpolar and Semipolar Nitride-based Devices Today; 1.5 Prospects in the Development of Nonpolar Nitrides and Devices; 1.6 Summary AcknowledgmentsReferences; Part I Growth; 2 Growth of Planar and Reduced-defect Density Nonpolar GaN Films by Hydride Vapor Phase Epitaxy; 2.1 Introduction; 2.2 Planar a-plane GaN Growth; 2.3 Lateral Epitaxial Overgrowth of a-plane GaN Films; 2.4 Planar m-plane GaN Heteroepitaxy; 2.5 Lateral Epitaxial Overgrowth of m-plane GaN; 2.6

Conclusion; References; 3 Nonpolar GaN Quasi-Wafers Sliced from Bulk GaN Crystals Grown by High-Pressure Solution and HVPE Methods; 3.1 Introduction; 3.2 Bulk Crystallization of GaN; 3.2.1 Seed Crystals; 3.2.2 Bulk Crystallization of GaN by HVPE on Small Seeds 3.2.3 HVPE of GaN on Platelet-shaped Seeds 3.2.4 HVPE of GaN on Needle-shaped Seeds; 3.3 Nonpolar Quantum Structures; 3.3.1 GaN/AlGaIn Quantum Structures Grown by PA Molecular Beam Epitaxy; 3.3.2 Optical Properties of Nonpolar Structures Grown on GaN Quasi-Wafers Sliced from Bulk GaN Crystals; 3.4 Summary; Acknowledgment; References; 4 Heteroepitaxial Growth of Nonpolar-face AlN on SiC Substrates by Plasma-assisted Molecular-beam Epitaxy; 4.1 Introduction; 4.2 The Crystalline Structure of AlN and SiC; 4.3 AlN/6H-SiC (1100); 4.4 AlN/6H-SiC (1120); 4.5 AlN/4H-SiC (1120) 4.6 Reducing Structural Defect Densities in 4H-AlN 4.7 AlN/4H-SiC (1100); 4.8 Properties of 4H-AlN; 4.9 Nonpolar AlGaIn and AlGaIn/AlN Heterostructures; 4.10 Conclusion; Acknowledgments; References; 5 Metalorganic Vapor Phase Epitaxial Growth of Nonpolar Al(Ga,In)N Films on Lattice-Mismatched Substrates; 5.1 Introduction; 5.2 Growth and Properties of a-plane GaN on r-plane Sapphire; 5.3 Growth and Properties of m-plane GaN on m-plane SiC; 5.4 Growth of GaN on Semipolar (3038) 4H-SiC Substrate 5.5 Reduction of Dislocation Density and Stacking-fault Density by Sidewall Seeded Epitaxial Lateral Overgrowth 5.6 Conductivity Control of Nonpolar GaN; 5.6.1 n-type GaN; 5.6.2 p-type GaN; 5.7 Heterostructures; 5.7.1 GaInN/GaN MQWs; 5.7.2 AlGaIn/GaN Single Heterostructure; 5.8 Characterization of Visible LEDs on Nonpolar GaN; 5.9 Summary; Acknowledgments; References; Further Reading; 6 GaN Films and Quantum Wells with Nonpolar Surfaces: Growth and Structural Properties; 6.1 Introduction; 6.2 Substrates; 6.2.1 -LiAlO₂; 6.2.1.1 Properties and Merits; 6.2.1.2 Drawbacks 6.2.1.3 Orientation Relationship and Microstructure

Sommario/riassunto

This is the first monograph to discuss in detail the current stage of development of nonpolar nitrides, with specific emphasis on the three main topics of crystal growth, properties and device studies. World-class researchers summarize their own recent achievements in their respective fields of expertise, covering both nonpolar and semipolar nitride materials. The bulk of the discussion in each chapter is related to the physical properties of the material obtained by the respective technique, in particular, defect density and properties of the defects in nonpolar nitrides. In addition, the

2. Record Nr.	UNINA9910483868103321
Titolo	Combinatorial Optimization and Applications : Third International Conference, COCOA 2009, Huangshan, China, June 10-12, 2009, Proceedings / / edited by Ding-Zhu Du, Xiaodong Hu, Panos M. Pardalos
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2009
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Descrizione fisica	1 online resource (XIII, 542 p.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 5573
Altri autori (Persone)	DuDingzhu HuXiaodong PardalosP. M <1954-> (Panos M.)
Disciplina	005.11
Soggetti	Computer programming Computer networks Software engineering Algorithms Computer science - Mathematics Discrete mathematics Programming Techniques Computer Communication Networks Software Engineering Discrete Mathematics in Computer Science
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"... the Second International Conference on Combinatorial Optimization and Applications (COCOA 2008),"--Pref.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Algorithms for Network Design -- Polynomial Approximation Schemes for the Max-Min Allocation Problem under a Grade of Service Provision -- A Linear Time Algorithm for Computing the Most Reliable Source on a Tree with Faulty Vertices -- A 5/3-Approximation Algorithm for Joint Replenishment with Deadlines -- A PTAS for Node-Weighted Steiner Tree in Unit Disk Graphs -- Bioinformatics -- DNA Library Screening, Pooling Design and Unitary Spaces -- Improved Algorithms for the Gene Team Problem -- Linear Coherent Bi-cluster Discovery via Line

Detection and Sample Majority Voting -- Combinatorics and Its Applications -- Generalized Russian Cards Problem -- Computing the Transitive Closure of a Union of Affine Integer Tuple Relations -- Matching Techniques Ride to Rescue OLED Displays -- Computational Geometry -- On Open Rectangle-of-Influence Drawings of Planar Graphs -- An Effective Hybrid Algorithm for the Circles and Spheres Packing Problems -- Variable-Size Rectangle Covering -- On-Line Multiple-Strip Packing -- Game Theory -- A Cost-Sharing Method for the Soft-Capacitated Economic Lot-Sizing Game -- Improved Bounds for Facility Location Games with Fair Cost Allocation -- Graph Algorithms -- Two-Level Heaps: A New Priority Queue Structure with Applications to the Single Source Shortest Path Problem -- On Construction of Almost-Ramanujan Graphs -- A $2\log_2(n)$ -Approximation Algorithm for Directed Tour Cover -- Approximation Algorithms for Max 3-Section Using Complex Semidefinite Programming Relaxation -- Graph Theory -- Hamiltonian Decomposition of Some Interconnection Networks -- Infinite Family from Each Vertex k -Critical Graph without Any Critical Edge -- A Note on Edge Choosability and Degeneracy of Planar Graphs -- A Sufficient and Necessary Condition for the Forcing Number of a Bipartite Graph Being Equal to the Minimum Number of Trailing Vertices -- On Integrity of Harary Graphs -- A Note on n -Critical Bipartite Graphs and Its Application -- Network Models and Problems -- Real-Time Algorithm Scheme for n -Vehicle Exploration Problem -- Deterministically Estimating Data Stream Frequencies -- Positive Influence Dominating Set in Online Social Networks -- On-line Algorithms -- Optimal Algorithms for the Online Time Series Search Problem -- A Risk-Reward Competitive Analysis for the Newsboy Problem with Range Information -- Optimal Semi-online Algorithm for Scheduling on a Batch Processing Machine -- A Note on Online Scheduling for Jobs with Arbitrary Release Times -- Size-Problems -- Size-Constrained Tree Partitioning: A Story on Approximation Algorithm Design for the Multicast k -Tree Routing Problem -- On Disjoint Shortest Paths Routing on the Hypercube -- A New Approach for Rearrangeable Multicast Switching Networks -- Scheduling -- Bicriteria Scheduling on Single-Machine with Inventory Operations -- Approximation Algorithm for Minimizing the Weighted Number of Tardy Jobs on a Batch Machine -- Scheduling with Rejection to Minimize the Makespan -- Scheduling Problems in Cross Docking -- Makespan Minimization with Machine Availability Constraints -- A Mathematical Programming Approach for Online Hierarchical Scheduling -- Recoverable Robust Timetables on Trees -- Roulette Wheel Graph Colouring for Solving Examination Timetabling Problems -- Integrated Production and Delivery Scheduling with Disjoint Windows -- Wireless and Optical Networks -- Fault-Tolerant Routing: k -Inconnected Many-to-One Routing in Wireless Networks -- A Branch-and-Cut Algorithm for the Minimum Energy Symmetric Connectivity Problem in Wireless Networks -- Minimum Energy Broadcast Routing in Ad Hoc and Sensor Networks with Directional Antennas -- Approximating the Multicast Traffic Grooming Problem in Unidirectional SONET/WDM Rings -- An Algorithm with Better Approximation Ratio for Multicast Traffic in Unidirectional SONET/WDM Rings.

Sommario/riassunto

This book constitutes the refereed proceedings of the Third International Conference on Combinatorial Optimization and Applications, COCOA 2009, held in Huangshan, China, in June 2009. The 50 revised full papers were carefully reviewed and selected from 103 submissions. The papers feature original research in the areas of combinatorial optimization - both theoretical issues and and

applications motivated by real-world problems thus showing convincingly the usefulness and efficiency of the algorithms discussed in a practical setting.
