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Nota di contenuto	Defects-Recognition, Imaging and Physics in Semiconductors XIV; Preface, Message and Committee; Table of Contents; Chapter 1: Defects in SiC; Imaging and Strain Analysis of Threading-Edge and Basal-Plane Dislocations in 4H-SiC Using X-Ray Three-Dimensional Topography; Threading Dislocations in 4H-SiC Observed by Double- Crystal X-Ray Topography; Characterization of Dislocation Structures in Hexagonal SiC by Transmission Electron Microscopy; Photoluminescence Imaging and Wavelength Analysis of Basal Plane Frank-Type Defects in 4H-SiC Epilayers Formation of Nanovoids in Femtosecond Laser-Irradiated Single Crystals of Silicon CarbideElectron Beam Induced Current Observation of Dislocations in 4H-SiC Introduced by Mechanical Polishing; Basal Plane Dislocations in 4H-SiC Epilayers with Different Dopings; Frank Partial Dislocation in 4H-SiC Epitaxial Layer by MSE Method; Separation of the Driving Force and Radiation-Enhanced Dislocation Glide in 4H- SiC; Study of Defects Generated by Standard- and Plasma-Implantation of Nitrogen Atoms in 4H-SiC Epitaxial Layers

Different Dissociation Behavior of [11-20] and Non-[11-20] Basal Plane Dislocations in 4H-Si under Electron Beam Irradiation; Density of Etch Pits on C-Face 4H-SiC Surface Produced by ClF₃ Gas; Defect Related Leakage Current Components in SiC Schottky Barrier Diode; Rapid Terahertz Imaging of Carrier Density of 3C-SiC; Chapter 2: Nitride Materials and Devices; Cathodoluminescence Study of Ammonothermal GaN Crystals; The Effect of the Indenter Orientation on the Formation of Dislocations and Cracks in (0001) GaN Bulk Crystals; Defect Propagation from 3C-SiC to III-Nitride; Characterization of Dislocations in GaN Thin Film and GaN/AlN Multilayer; Microscopic Degradation Analysis of RF-Stressed AlGaIn/GaN HEMTs; Chapter 3: III-V Compounds and Devices; Distribution of Misfit Dislocations at the InGaAs/GaAs(001) Interface Observed by Monochromatic X-Ray Topography; Effects of In Content on Anisotropies in Strain Relaxation Processes of InGaAs/GaAs (001) Measured by Real-Time Three-Dimensional Reciprocal Space Mapping; Nitrogen Related Deep Levels in GaAsN Films Investigated by a Temperature Dependence of Piezoelectric Photothermal Signal; Intermixing in InP-Based Quantum Well Photonic Structures Induced by the Dry-Etching Process: A Spectral Imaging Cathodoluminescence Study; Defect Propagation in Broad-Area Diode Lasers; Kinetics of Defect Propagation during the Catastrophic Optical Damage (COD) in Broad-Area Diode Lasers; Nondestructive Measurement of Carrier Density in GaAs Using Relative Reflectivity of Two Terahertz Waves; Chapter 4: Photovoltaics: From Material to Module; Lock-In Thermography and Related Topics in Photovoltaic Research; EBIC Study on Metal Contamination at Intra Grain Defects in Multicrystalline Silicon for Solar Cells

Sommario/riassunto

This volume documents the latest understanding of many topics of current interest in the science and technology of defects in semiconductors. The investigation of defects in semiconductors is a little different to that in other fields of materials science: in order to observe defects in semiconductors and elucidate their physical nature, a very wide range of tools and techniques has been introduced or created; thanks to the inventive ideas of the researchers. This work clearly reflects the lively state of defect investigation in semiconductors. Review from Book News Inc.: Drawn from papers del
