

## Contents

<i>Shuji Nakamura</i> Present Status of InGaN-Based UV/Blue/Green LEDs and Laser Diodes . . . . .	1
<i>H. Obloh, K.-H. Bachem, D. Behr, U. Kaufmann, M. Kunzer, A. Ramakrishnan, P. Schlotter, M. Seelmann-Eggebert, J. Wagner</i> Group III-Nitride Based Blue Emitters . . . . .	15
<i>Axel Hoffmann, Ludger Eckey and Jens Holst</i> Laser Processes in Group-III Nitrides . . . . .	29
<i>M. Behringer, H. Wenisch, M. Fehrer, V. Großmann, A. Iseman, M. Klude, H. Heinke, K. Ohkawa, and D. Hommel</i> Growth and Characterization of II-VI Semiconductor Lasers . . . . .	47
<i>K. Henneberger, H. Güldner, G. Manzke, Q.Y. Peng, M.F. Pereira Jr.</i> Many-Body Theory for II-VI Semiconductor Laser Media . . . . .	61
<i>R. Helbig and F. Engelbrecht</i> SiC: Polar Properties and their Influence on Technology and Devices . . . . .	75
<i>Andreas Fissel, Bernd Schröter and Wolfgang Richter</i> Growth Mechanisms of SiC on $\alpha$ -SiC(0001) Prepared by Solid-Source Molecular Beam Epitaxy . . . . .	87
<i>H. Jörg Osten</i> Si <sub>1-x-y</sub> Ge <sub>x</sub> C <sub>y</sub> Alloys: Growth and Properties of a New Semiconducting Material . . . . .	101
<i>T. Frauenheim, T. Köhler, G. Jungnickel, P. Sitch, P. Blaudeck</i> Correlations Between Microstructure and Electronic Properties in Amorphous Carbon Based Materials . . . . .	111
<i>Rolf Sauer</i> Characterization of CVD-Diamond Layers: Electronic States . . . . .	125
<i>T.H. Oosterkamp, W.G. van der Wiel, L.P. Kouwenhoven, D.G. Austing, T. Honda, S. Tarucha</i> Electron Ground States in a Few-Electron Quantum Dot . . . . .	139
<i>W. Wegscheider, G. Schedelbeck, M. Bichler and G. Abstreiter</i> Atomically Precise, Coupled Quantum Dots Fabricated by Cleaved Edge Overgrowth . . . . .	153
<i>Christian Schüller</i> Raman Spectroscopy of Quantum Dots . . . . .	167

<i>R.J. Warburton, C. Bödefeld, C.S. Dürr, K. Karrai, J.P. Kotthaus, G. Medeiros-Ribeiro, and P.M. Petroff</i> Charged Excitons in InAs Quantum Dots .....	183
<i>H. Buhmann, S. Möller, and L.W. Molenkamp</i> Charge Fluctuations, Chaotic Trajectories, and the Coulomb Blockade .....	193
<i>M. Grundmann, F. Heinrichsdorff, N.N. Ledentsov, D. Bimberg, Zh.I. Alferov</i> Diode Lasers Based on Quantum Dots .....	203
<i>Detlef Lohse and Sascha Hilgenfeldt</i> Sonoluminescence: When Bubbles Glow .....	215
<i>V.G. Lyssenko, M. Sudzius, F. Löser, G. Valusis, T. Hasche, K. Leo, M.M. Dignam, and K. Köhler</i> Bloch Oscillations in Semiconductor Superlattices .....	225
<i>Erich Runge and Roland Zimmermann</i> Optical Properties of Localized Excitons in Nanostructures: Theoretical Aspects .....	251
<i>T. Stroucken, S. Haas, B. Grote, S.W. Koch, M. Hübner, D. Ammerlahn, and J. Kuhl</i> Superradiant Exciton-Light Coupling in Semiconductor Heterostructures – Theory .....	265
<i>J. Kuhl, M. Hübner, D. Ammerlahn, T. Stroucken, B. Grote, S. Haas, S.W. Koch, G. Khitrova, H.M. Gibbs, R. Hey, and K. Ploog</i> Superradiant Exciton/Light Coupling in Semiconductor Heterostructures – Part II: Experiments .....	281
<i>M. Wegener, M.U. Wehner, D. Steinbach, M.H. Ulm, G. Kocherscheidt, and D.S. Chemla</i> Quantum Kinetics in Semiconductors: Experiments on a 10-Femtosecond Timescale .....	297
<i>A. Knorr, B. Hanewinkel, H. Giessen, and S.W. Koch</i> Theory for Semiconductor Near-Field Optics: Selection Rules and Coherent Spatio-Temporal Dynamics .....	311
<i>Christoph Lienau</i> Near-field Scanning Optical Spectroscopy of Semiconductor Nanostructures ...	325
<i>Josef Zweck</i> Lorentz Microscopic Investigations of Micromagnetic Structures .....	341
<i>M. Foerste, I. Baumann, U. Pritzsche, G. zu Putlitz, B. Tabbert, J. Wiebe, and C. Zühlke</i> Optical and Mobility Measurements of Alkali Earth Atoms and Ions in Superfluid Helium .....	355

<i>M. Ulmke, P.J.H. Denteneer, V. Janiš, R.T. Scalettar, A. Singh, D. Vollhardt, and G.T. Zimanyi</i> Disorder and Impurities in Hubbard-Antiferromagnets .....	369
<i>D. Vollhardt, N. Blümer, K. Held, M. Kollar, J. Schlipf, M. Ulmke, and J. Wahle</i> Metallic Ferromagnetism: Progress in our Understanding of an Old Strong-Coupling Problem .....	383
<i>Tapash Chakraborty</i> Interacting Electrons in a Narrow Quantum Hall System .....	397
<i>Reinhold Egger and Alexander O. Gogolin</i> Electron-Electron Interaction Effects in Single-Wall Carbon Nanotubes .....	411
<i>Reimer Kühn and Uta Horstmann</i> A New Look at Low-Temperature Anomalies in Glasses .....	425
<i>Günter Radons</i> Disorder Phenomena in Chaotic Systems .....	439
<i>Lambert Alff and Rudolf Gross</i> Zero Bias Anomalies in the Tunneling Spectra of High Temperature Superconductors .....	453
<i>Michael Baenitz and Klaus Lüders</i> Superconductivity in Fullerene Compounds .....	471
<i>Meinhard Schilling</i> Heteroepitaxy and Noise in Integrated HTS dc-SQUID Magnetometers .....	485
<i>Klaus Winzer, Zhiqiang Peng, and Klaus Krug</i> Magnetic Phase Diagram and Reentrant Superconductivity in DyNi <sub>2</sub> B <sub>2</sub> C .....	497
<i>E. Il'ichev, V. Zakosarenko, R.P.J. Ijsselstein, V. Schultze, H.-G. Meyer, and H.E. Hoenig</i> The Current-Phase Relation in HTS Josephson Junctions .....	507
<i>A. V. Ustinov, E. Goldobin, G. Hechtfischer, N. Thyssen, A. Wallraff, R. Kleiner, and P. Müller</i> Cherenkov Radiation from Josephson Fluxons .....	521
<i>W. Hanke, R. Eder, E. Arrigoni, A. Dorneich, S. Meixner, and M.G. Zacher</i> SO(5) Symmetry in <i>t</i> - <i>J</i> and Hubbard Models .....	533
<i>M. Leghissa, J. Rieger, J. Wiezoreck, and H.-W. Neumüller</i> HTS Cables for Electric Power Transmission: Basic Properties – State of the Art – Prospects .....	551
<i>J. Dąbrowski, H.-J. Müssig, M. Duane, S. T. Dunham, R. Goossens, and H.-H. Vuong</i> Basic Science and Challenges in Process Simulation .....	565

---

<i>Günter Thummes and Christoph Heiden</i> Adaptive Cooling on the Basis of Pulse Tube Refrigerators . . . . .	583
<i>Eberhard Blank and Johannes Michler</i> Current Issues in Mechanics of Layer Systems for Sensors and Actuators . . . . .	593
<i>C. Hebling, A. Eyer, F.R. Faller, A. Hurrle, R. Lüdemann, S. Reber, and W. Wetling</i> The Crystalline Silicon Thin-Film Solar Cell – The High Temperature Approach	607
<i>Th. Ochs, W. Geyer, Ch. Krummel, M. Fleischer, H. Meixner, and D. Kohl</i> Thin Films for Gas Sensors in New Application Fields – MBRS studies and semiempirical calculations. . . . .	623
Contents of Volumes 33–37 . . . . .	633