

New and Recent Titles in Materials Science

Laser Processing of Thin Films and Microstructures Oxidation, Deposition, and Etching of Insulators

I.W. Boyd

Introduces, and extensively reviews, the past 6 year's research in laser processing of thin dielectric films, including deposition, nucleation and growth, oxidation, etching and ablation as applied to the direct formation of localized patterns and structures on micro- and opto-electronic devices. This heavily referenced volume contains fundamental aspects, practical details, and potential applications.

Contents: Introduction. Interaction and Kinetics. Experimental Considerations. Laser Assisted Thermal Oxidation and Nitradation. Passivation by Laser Annealing and Melting. Laser-Induced Deposition. Material Removal. Summary and Conclusions.

1987/approx. 312 pp./hardcover \$61.50 (tent.) ISBN 0-387-17951-8
Springer Series in Materials Science, Vol. 3

One-Dimensional Conductors

S. Kagoshima, H. Nagasawa, and T. Sambongi

Covers the physical properties of electrically one-dimensional conductors, including basic concepts and a review of recent research, and places the discovery of new materials, phenomena, and concepts within the framework of traditional solid-state physics and materials science. Serves as an introduction for students and a research survey for experimentalists.

Contents: What are One-Dimensional Conductors? Fundamental Properties of Electronic Systems in One Dimension. Properties of TTF-TCNQ and Its Family. Properties of MX_3 . Properties of KCP. Properties of Linear Chain Polymers (CH), and (SN), Properties of Linear Chain Mercury Compounds. References. Subject Index.

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ISBN 0-387-18154-7

Springer Series in Solid-State Sciences, Vol. 72

Semiconductor Interfaces

Formation and Properties

Proceedings of the Workshop, Les Houches, France,
February 24 - March 6, 1987

Edited by G. Le Lay, J. Derrien and N. Boccara

Presents a comprehensive review of recent advances in the production of thin-film materials and in the characterization of their interfacial properties down to the atomic level. Topics treated in detail include interface formation (including molecular beam epitaxy), the fabrication of artificially layered structures, strained superlattices, and the tailoring of abrupt doping profiles, characterization using STM, HRTEM, SEXAFS, and SEELFS, specific physical properties of the interfaces, and their prospective applications.

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Springer Proceedings in Physics, Vol. 22

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Edited by W. Schommers and P. von Blanckenhagen

Part II deals with ordered and disordered, as well as harmonic and anharmonic, surface effects on the microscopic level. Also includes background material, typical results, and future developments.

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G. Vertogen and W.H. de Jeu

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