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## Langmuir-Blodgett Films

[Elsevier](#) Topics covered range from basic structural studies to areas as diverse as electron tunneling, photovoltaic effects and solid state polymerisation.

## Langmuir-Blodgett Films

[Springer Science & Business Media](#) Monomolecular assemblies on substrates, now termed Langmuir-Blodgett (LB) films, have been studied for over half a century. Their development can be viewed in three stages. Following the pioneering work of Irving Langmuir and Katharine Blodgett in the late 1930s there was a brief flurry of activity just before and just after the Second World War. Many years later Hans Kuhn published his stimulating work on energy transfer. This German contribution to the field, made in the mid-1960s, can be regarded as laying the foundation for studies of artificial systems of cooperat ing molecules on solid substrates. However, the resurgence of activity in academic and industrial laboratories, which has resulted in four large international con ferences, would not have occurred but for British and French groups highlighting the possible applications of LB films in thefield of electronics. Many academic and industrial establishments involved in high technology are now active in or maintaining a watching brief on the field. Nevertheless this impor tant area of solid state science is still perhaps largely unfamiliar to many involved in materials or electronic device research. The richness of the variety of organic molecular materials suitable for LB film deposition offers enormous scope for those interested in their basic properties or their practical applications. LB films are now an integral part of the field of molecular electronics. It seems inevitable that they will play some role in replacing inorganic materials in certain areas of application.

## Principles of Surface Physics

[Springer Science & Business Media](#) An innovative, unified, and comprehensive treatment of the geometric and electronic structure of surfaces. The book emphasizes fundamental aspects, such as the principles of surface crystallography and thermodynamics, the forces driving the rearrangement of the atoms, and the relationship between bonding and electronic structure. It especially illuminates the relationship between surface orientation, chemistry, energetics, and the resulting properties. Principles of Surface Physics develops general physical arguments and methods that enable readers to analyse novel surfaces and interfaces of new materials. This makes the book an indispensable reference to all those studying growth, surface-molecule interactions, self-assembled structures, and materials engineering.

## Length-Scale Dependent Phonon Interactions

[Springer Science & Business Media](#) This book presents a comprehensive description of phonons and their interactions in systems with different dimensions and length scales. Internationally-recognized leaders describe theories and measurements of phonon interactions in relation to the design of materials with exotic properties such as metamaterials, nano-mechanical systems, next-generation electronic, photonic, and acoustic devices, energy harvesting, optical information storage, and applications of phonon lasers in a variety of fields. The emergence of techniques for control of semiconductor properties and geometry has enabled engineers to design structures in which functionality is derived from controlling electron behavior. As manufacturing techniques have greatly expanded the list of available materials and the range of attainable length scales, similar opportunities now exist for designing devices whose functionality is derived from controlling phonon behavior. However, progress in this area is hampered by gaps in our knowledge of phonon transport across and along arbitrary interfaces, the scattering of phonons with crystal defects, interface roughness and mass-mixing, delocalized electrons/collective electronic excitations, and solid acoustic vibrations when these occur in structures with small physical dimensions. This book provides a comprehensive description of phonons and their interactions in systems with different dimensions and length scales. Theories and measurements of phonon interactions are described in relation to the design of materials with exotic properties such as metamaterials, nano-mechanical systems, next-generation electronic, photonic, and acoustic devices, energy harvesting, optical information storage, and applications of phonon lasers in a variety of fields.

## Theoretical Modelling of Semiconductor Surfaces

## Microscopic Studies of Electrons and Phonons

## Electronic Structure and Electronic Transitions in Layered Materials

[Springer Science & Business Media](#) This new volume in the series **Physics and Chemistry of Materials with Layered Structures** satisfies the need for a comprehensive review of the progress made in the decade 1972-1982 in the field of the electronic properties of layer compounds. Some recent theoretical and experimental developments are highlighted by authori tative physicists active in current research. The previous books of this series covering similar topics are volumes 3 and 4. The present review is mainly intended to fulfill the gap up to 1982 and part of 1983. I am indebted to all the authors for their friendly co-operation and continuous effort in preparing the contributions in their own fields of competence. I am sure that both the expertise scientists and the beginners in the field of the electronic properties of layered materials will find this book a valuable tool for their research work. Warm thanks are due to Prof. E. Mooser, General Editor of the series, for his constant and authoritative advice. \* \* \* This book has been conceived as a tribute to Prof. Franco Bassani to whom the Italian tradition in the field of layer compounds, as well as in other fields of solid state physics, owes much. The authors of this review have all benefited at some time of their professional life from close cooperation with him. Istituto di Struttura della Materia, VINCENZO GRASSO Universitd di Messina IX V Grasso (ed.). **Electronic Structure and Electronic Transitions in Layered Materials**. ix.

## Solid State Physics

[Academic Press](#) **Solid State Physics** provides the latest information on the branch of physics that is primarily devoted to the study of matter in its solid phase, especially at the atomic level. This prestigious serial presents timely and state-of-the-art reviews pertaining to all aspects of solid state physics. Contains contributions from leading authorities in the study of solid state physics, especially at the atomic level Informs and updates on all the latest developments in the field presents timely and state-of-the-art reviews pertaining to all aspects of solid state physics

## The Physics of Semiconductors

### An Introduction Including Nanophysics and Applications

**Springer** The 3rd edition of this successful textbook contains ample material for a comprehensive upper-level undergraduate or beginning graduate course, guiding readers to the point where they can choose a special topic and begin supervised research. The textbook provides a balance between essential aspects of solid-state and semiconductor physics, on the one hand, and the principles of various semiconductor devices and their applications in electronic and photonic devices, on the other. It highlights many practical aspects of semiconductors such as alloys, strain, heterostructures, nanostructures, that are necessary in modern semiconductor research but typically omitted in textbooks. Coverage also includes additional advanced topics, such as Bragg mirrors, resonators, polarized and magnetic semiconductors, nanowires, quantum dots, multi-junction solar cells, thin film transistors, carbon-based nanostructures and transparent conductive oxides. The text derives explicit formulas for many results to support better understanding of the topics. The Physics of Semiconductors requires little or no prior knowledge of solid-state physics and evolved from a highly regarded two-semester course. In the third edition several topics are extended and treated in more depth including surfaces, disordered materials, amorphous semiconductors, polarons, thermopower and noise. More than 1800 references guide the reader to historic and current literature including original and review papers and books.

### Dynamical Properties of IV–VI Compounds

Springer

### Intrinsic Properties of Group IV Elements and III-V, II-VI and I-VII Compounds / Intrinsische Eigenschaften Von Elementen Der IV. Gruppe und Von III-V-, II-VI- und I-VII-Verbindungen

Springer Science & Business Media

### Electronic Structure and Physical Properties of Solids

### The Uses of the LMTO Method

**Springer** A very comprehensive book, enabling the reader to understand the basic formalisms used in electronic structure determination and particularly the "Muffin Tin Orbitals" methods. The latest developments are presented, providing a very detailed description of the "Full Potential" schemes. This book will provide a real state of the art, since almost all of the contributions on formalism have not been, and will not be, published elsewhere. This book will become a standard reference volume. Moreover, applications in very active fields of today's research on magnetism are presented. A wide spectrum of such questions is covered by this book. For instance, the paper on interlayer exchange coupling should become a "classic", since there has been fantastic experimental activity for 10 years and this can be considered to be the "final" theoretical answer to this question. This work has never been presented in such a complete form.

## Semiconductors

### Group IV Elements and III-V Compounds

**Springer Science & Business Media** The frequent use of well known critical data handbooks like Beilstein, Gmelin and Landolt Bornstein is impeded by the fact that merely larger libraries - often far away from the scientist's working place - can afford such precious collections. To satisfy an urgent need of many scientists for having at their working place a comprehensive, high quality, but cheap collection of at least the basic data of their field of interest the series "Data in Science and Technology" is started now. This first volume presents the most important data on two groups of semiconductors, the elements of the IVth group of the periodic system and the III-V compounds. All data were compiled from information on about 2500 pages in various volumes of the New Series of Landolt-Bornstein. For each critically chosen data set and each figure the original literature is cited. In addition, tables of content refer to the handbooks the data were drawn from. Thus the presentation of data in this volume is of the same high quality standard as in the original evaluated data collections. We hope to meet the needs of the physical community with the volumes of the series "Data in Science and Technology", forming bridges between the laboratory and additional information sources in the libraries.

### Semiconductors — Basic Data

**Springer Science & Business Media** The frequent use of well known critical data handbooks like Beilstein, Gmelin and Landolt-Bornstein is impeded by the fact that merely larger libraries - often far away from the scientist's working place - can afford such precious collections. To satisfy an urgent need of many scientists working in the field of semiconductor physics for having at their working place a comprehensive, high quality, but cheap collection of at least the basic data of their field of interest this volume contains the most important data of semiconductors. All data were compiled from information on semiconductors presented on more than 6000 pages in various volumes of the New Series of Landolt-Bornstein. We hope to meet the needs of the community of semiconductor physicists with this volume, forming a bridge between the laboratory and additional information sources in the libraries. The Editor Marburg, January 1996

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## Proceedings of the Nuclear Physics and Solid State Physics Symposium

### Semiconductor Materials

**CRC Press** *Semiconductor Materials* presents physico-chemical, electronic, electrical, elastic, mechanical, magnetic, optical, and other properties of a vast group of elemental, binary, and ternary inorganic semiconductors and their solid solutions. It also discusses the properties of organic semiconductors. Descriptions are given of the most commonly used semiconductor devices-charge-coupled devices, field-effect transistors, unijunction transistors, thyristors, Zener and avalanche diodes, and photodiodes and lasers. The current trend of transitioning from silicon technology to gallium arsenide technology in field-effect-based electronic devices is a special feature that is also covered. More than 300 figures and 100 tables highlight discussions in the text, and more than 2,000 references guide you to further sources on specific topics. *Semiconductor Materials* is a relatively compact book containing vast information on semiconductor material properties. Readers can compare results of the property measurements that have been reported by different authors and critically compare the data using the reference information contained in the book. Engineers who design and improve semiconductor devices, researchers in physics and chemistry, and students of materials science and electronics will find this a valuable guide.

### Basic Properties of Semiconductors

**Elsevier** Since Volume 1 was published in 1982, the centres of interest in the basic physics of semiconductors have shifted. Volume 1 was called *Band Theory and Transport Properties* in the first edition, but the subject has broadened to such an extent that *Basic Properties* is now a more suitable title. Seven chapters have been rewritten by the original authors. However, twelve chapters are essentially new, with the bulk of this work being devoted to important current topics which give this volume an almost encyclopaedic form. The first three chapters discuss various aspects of modern band theory and the next two analyze impurities in semiconductors. Then follow chapters on semiconductor statistics and on surfaces, interfaces and band offsets as they occur in heterojunctions. Chapters 8 to 19 report on newer topics (though a survey of transport properties of carriers is also included). Among these are transport of hot electrons, and thermoelectric effects including here and elsewhere properties of low-dimensional and mesoscopic structures. The electron-hole liquid, the quantum Hall effect, localisation, ballistic transport, coherence in superlattices, current ideas on tunnelling and on quantum confinement and scattering processes are also covered.

### The Physics of Phonons

**CRC Press** This fully updated second edition of *The Physics of Phonons* remains the most comprehensive theoretical discussion devoted to the study of phonons, a major area of condensed matter physics. It contains exciting new sections on phonon-related properties of solid surfaces, atomically thin materials (such as graphene and monolayer transition metal chalcogenides), in addition to nano-structures and nanocomposites, thermoelectric nanomaterials, and topological nanomaterials, with an entirely new chapter dedicated to topological nanophononics and chiralphononics. Although primarily theoretical in approach, the author refers to experimental results wherever possible, ensuring an ideal book for both experimental and theoretical researchers. The author begins with an introduction to crystal symmetry and continues with a discussion of lattice dynamics in the harmonic approximation, including the traditional phenomenological approach and the more recent ab initio approach, detailed for the first time in this book. A discussion of anharmonicity is followed by the theory of lattice thermal conductivity, presented at a level far beyond that available in any other book. The chapter on phonon interactions is likewise more comprehensive than any similar discussion elsewhere. The sections on phonons in superlattices, impure and mixed crystals, quasicrystals, phonon spectroscopy, Kapitza resistance, and quantum evaporation also contain material appearing in book form for the first time. The book is complemented by numerous diagrams that aid understanding and is comprehensively referenced for further study. With its unprecedented wide coverage of the field, *The Physics of Phonons* is an indispensable guide for advanced undergraduates, postgraduates, and researchers working in condensed matter physics and materials science. Features Fully updated throughout, with exciting new coverage on graphene, nanostructures and nanocomposites, thermoelectric nanomaterials, and topological nanomaterials. Authored by an authority on phonons. Interdisciplinary, with broad applications through condensed matter physics, nanoscience, and materials science. --

### Theory of Thermoluminescence and Related Phenomena

**World Scientific** In this book, the authors give an up-to-date account of thermoluminescence (TL) and other thermally stimulated phenomena. Although most recent experimental results of TL in different materials are described in some detail, the main emphasis in the present book is on general processes, and the approach is more theoretical. Thus the details of the possible processes which can take place during the excitation of the sample, and during its heating, are carefully analysed. The methods for analysing TL glow curves are critically discussed, and recommendations as to their application are made. Also discussed is the expected behavior of these phenomena as functions of the experimental parameters, for example, dose of excitation. The consequences of the main applications of TL (for example, radiation dosimetry) are also discussed in detail as are the similarities and dissimilarities of other thermally stimulated phenomena, and the simultaneous measurements of the latter and TL.

### Electrocomponent Science and Technology

### The Chemical Physics of Solid Surfaces and Heterogeneous Catalysis

**Elsevier** *Surface Properties of Electronic Materials* is the fifth volume of the series, *The Chemical Physics of Solid Surfaces and Heterogeneous Catalysis*. This volume indicates the present state of some basic properties of semiconductor surfaces. Chapter one summarizes the general problems in electronic materials and the areas affected by the surface science methods. The next two chapters illustrate the existing perception of the electronic and structural properties of elemental and compound semiconductor surfaces. This volume also deals with the properties of adsorption of semiconductors relating to both relevant gas phase species and metals. Chapters four to six of this volume explore compound semiconductors and elemental semiconductors. The remaining chapters of this volume explore the adsorption of metals on elemental semiconductors; aspects of growth kinetics and dynamics involved in molecular beam epitaxy; molecular beam epitaxy of silicon; insulators; and metastable phases. The last chapter covers the surface chemistry of dry etching processes.

### Chemistry and Physics of Solid Surfaces VII

**Springer Science & Business Media** This volume contains review articles written by the invited speakers at the eighth International Summer Institute in Surface Science (ISISS 1987), held at the University of Wisconsin-Milwaukee in August of 1987. During the course of ISISS, invited speakers, all internationally recognized experts in the various fields of surface science, present tutorial review lectures. In addition, these experts are asked to write review articles on their lecture topic. Former ISISS speakers serve as advisors concerning the selection of speakers and lecture topics. Emphasis is given to those areas which have not been covered in depth by recent Summer Institutes, as well as to areas which have recently gained in significance and in which important progress has been made. Because of space limitations, no individual volume of *Chemistry and Physics of Solid Surfaces* can possibly cover the whole area of modern surface science, or even give a complete survey of recent progress in the field. However, an attempt is made to present a balanced overview in the series as a whole. With its comprehensive literature references and extensive subject indices, this series has become a valuable resource for experts and students alike. The collected articles, which stress particularly the gas-solid interface, have been published under the following titles: *Surface Science: Recent Progress and Perspectives*, Crit. Rev. Solid State Sci. 4, 125-559 (1974) *Chemistry and Physics of Solid Surfaces*, Vols. I, II, and III (CRC Press Boca Raton, FL 1976, 1979, and 1982); Vols.

## Strongly Correlated Systems

### Experimental Techniques

**Springer** The continuous evolution and development of experimental techniques is at the basis of any fundamental achievement in modern physics. Strongly correlated systems (SCS), more than any other, need to be investigated through the greatest variety of experimental techniques in order to unveil and crosscheck the numerous and puzzling anomalous behaviors characterizing them. The study of SCS fostered the improvement of many old experimental techniques, but also the advent of many new ones just invented in order to analyze the complex behaviors of these systems. Many novel materials, with functional properties emerging from macroscopic quantum behaviors at the frontier of modern research in physics, chemistry and materials science, belong to this class of systems. The volume presents a representative collection of the modern experimental techniques specifically tailored for the analysis of strongly correlated systems. Any technique is presented in great detail by its own inventor or by one of the world-wide recognized main contributors. The exposition has a clear pedagogical cut and fully reports on the most relevant case study where the specific technique showed to be very successful in describing and enlightening the puzzling physics of a particular strongly correlated system. The book is intended for advanced graduate students and post-docs in the field as textbook and/or main reference, but also for any other researcher in the field who appreciates consulting a single, but comprehensive, source or wishes to get acquainted, in a as painless as possible way, with the working details of a specific technique.

### The Physics of Phonons

**Routledge** There have been few books devoted to the study of phonons, a major area of condensed matter physics. The Physics of Phonons is a comprehensive theoretical discussion of the most important topics, including some topics not previously presented in book form. Although primarily theoretical in approach, the author refers to experimental results wherever possible, ensuring an ideal book for both experimental and theoretical researchers. The author begins with an introduction to crystal symmetry and continues with a discussion of lattice dynamics in the harmonic approximation, including the traditional phenomenological approach and the more recent ab initio approach, detailed for the first time in this book. A discussion of anharmonicity is followed by the theory of lattice thermal conductivity, presented at a level far beyond that available in any other book. The chapter on phonon interactions is likewise more comprehensive than any similar discussion elsewhere. The sections on phonons in superlattices, impure and mixed crystals, quasicrystals, phonon spectroscopy, Kapitza resistance, and quantum evaporation also contain material appearing in book form for the first time. The book is complemented by numerous diagrams that aid understanding and is comprehensively referenced for further study. With its unprecedented wide coverage of the field, The Physics of Phonons will be indispensable to all postgraduates, advanced undergraduates, and researchers working on condensed matter physics.

## Handbook on the Physics and Chemistry of Rare Earths

### Including Actinides

**Elsevier** Handbook on the Physics and Chemistry of Rare Earths is a continuous series of books covering all aspects of rare earth science, including chemistry, life sciences, materials science, and physics. The book's main emphasis is on rare earth elements [Sc, Y, and the lanthanides (La through Lu)], but whenever relevant, information is also included on the closely related actinide elements. Individual chapters are comprehensive, broad, up-to-date critical reviews written by highly experienced, invited experts. The series, which was started in 1978 by Professor Karl A. Gschneidner Jr., combines and integrates both the fundamentals and applications of these elements and publishes two volumes a year. Presents up-to-date overviews of new developments in the field of rare earths, covering both their physics and chemistry. Contains individual chapters that are comprehensive and broad, with critical reviews. Provides contributions from highly experienced, invited experts.

## Mössbauer Spectroscopy Applied to Inorganic Chemistry

**Springer Science & Business Media** In 1988 the Mossbauer effect community completed 30 years of continual contribution to the fields of nuclear physics, solid state science, and a variety of related disciplines. To celebrate this anniversary, Professor Gonser of the Universität des Saarlandes has contributed a chapter to this volume on the history of the effect. Although Mossbauer spectroscopy has reached its mature years, the chapters in this volume illustrate that it is still a dynamic field of science with applications to topics ranging from permanent magnets to biological mineralization. During the discussion of a possible chapter for this volume, a potential author asked, "Do we really need another Mossbauer book?" The editors responded in the affirmative because they believe that a volume of this type offers several advantages. First, it provides the author with an opportunity to write a personal view of the subject, either with or without extensive pedagogic content. Second, there is no artificially imposed restriction on length. In response to the question, "How long should my chapter be?" we have responded that it should be as long as is necessary to clearly present, explain, and evaluate the topic. In this type of book, it is not necessary to condense the topic into two, four, or eight pages as is now so often a requirement for publication in the research literature.

## Thermophysical Properties Research Literature Retrieval Guide

Editor: Y. S. Touloukian

## Spectroscopic Properties of Inorganic and Organometallic Compounds

**Royal Society of Chemistry** Spectroscopic Properties of Inorganic and Organometallic Compounds provides a unique source of information on an important area of chemistry. Divided into sections mainly according to the particular spectroscopic technique used, coverage in each volume includes: NMR (with reference to stereochemistry, dynamic systems, paramagnetic complexes, solid state NMR and Groups 13-18); nuclear quadrupole resonance spectroscopy; vibrational spectroscopy of main group and transition element compounds and coordinated ligands; and electron diffraction. Reflecting the growing volume of published work in this field, researchers will find this Specialist Periodical Report an invaluable source of information on current methods and applications. Specialist Periodical Reports provide systematic and detailed review coverage in major areas of chemical research. Compiled by teams of leading experts in their specialist fields, this series is designed to help the chemistry community keep current with the latest developments in their field. Each volume in the series is published either annually or biennially and is a superb reference point for researchers. [www.rsc.org/spr](http://www.rsc.org/spr)

## The Basics of Crystallography and Diffraction

**Oxford University Press** Crystallography and diffraction are widely used throughout science for studying structure. However, many students find these subjects difficult. The aim of this book is to show, through relevant examples and without relying on complex mathematics, that the basic ideas behind crystallography and diffraction are simple and easily comprehensible.

Memoir

Magnetism

Rocks to Superconductors

Festschrift honoring Prof. C. Radhakrishnamurty, b. 1933, Indian geophysicist; includes contributory articles.

Thermal Conductivity of Solids at Room Temperature and Below

A Review and Compilation of the Literature

Physics and Technology of High-k Gate Dielectrics 6

The Electrochemical Society The issue covers in detail all aspects of the physics and the technology of high dielectric constant gate stacks, including high mobility substrates, novel and still higher permittivity dielectric materials, CMOS processing with high-K layers, metals for gate electrodes, interface issues, physical, chemical, and electrical characterization, gate stack reliability, and DRAM and non-volatile memories.

Advances in Electronics and Electron Physics

Academic Press Advances in Electronics and Electron Physics

Physics of Semiconductor Devices

Proceedings of the International Workshop November, 1981, New Delhi, India

Physics and Technology of High-k Gate Dielectrics 4

The Electrochemical Society This issue covers, in detail, all aspects of the physics and the technology of high dielectric constant gate stacks, including high mobility substrates, high dielectric constant materials, processing, metals for gate electrodes, interfaces, physical, chemical, and electrical characterization, gate stack reliability, and DRAM and non-volatile memories.

Crystallography and Surface Structure

An Introduction for Surface Scientists and Nanoscientists

John Wiley & Sons A valuable learning tool as well as a reference, this book provides students and researchers in surface science and nanoscience with the theoretical crystallographic foundations, which are necessary to understand local geometries and symmetries of bulk crystals, including ideal single crystal surfaces. The author deals with the subject at an introductory yet mathematically sound level, providing numerous graphic examples to keep the math in context. The book brings together and logically connects many seemingly disparate structural issues and notations used frequently by surface scientists and nanoscientists. Numerous exercises of varying difficulty, ranging from simple questions to small research projects, are included to stimulate discussions about the different subjects.

Scientific Computing on Supercomputers II

Springer Science & Business Media The International Workshop on "The Use of Supercomputers in Theoretical Science" took place on November 29 and 30, 1989 at the University of Antwerp (UIA), Antwerpen, Belgium. It was the fifth in a series of workshops, the first of which took place in 1984. The principal aim of these workshops is to present the state-of-the-art in scientific large scale and high speed computation. Computational science has developed into a third methodology equally important now as its theoretical and experimental companions. Gradually academic researchers acquired access to a variety of supercomputers and as a consequence computational science has become a major tool for their work. It is a pleasure to thank the Belgian National Science Foundation (NFWO-FNRS) and the Ministry of Scientific Affairs for sponsoring the workshop. It was organized both in the framework of the Third Cycle "Vectorization, Parallel Processing and Supercomputers" and the "Governmental Program in Information Technology"~ We also very much would like to thank the University of Antwerp (Universitaire Instelling Antwerpen - UIA) for financial and material support. Special thanks are due to Mrs. H. Evans for the typing and editing of the manuscripts and for the preparation of the author and subject index.

Mechanics problems in geodynamics. 1 (1995)

Springer Science & Business Media One of two volumes of the proceedings of a symposium held in Beijing in September 1994. The 20 papers cover general global problems, mantle convection and subduction, regional tectonic problems, earthquake mechanisms, and the mechanical properties of rock fractures. Well illustrated. No index. Also published in Pageoph v.145, no.3/4. Annotation copyright by Book News, Inc., Portland, OR

## Mechanics Problems in Geodynamics Part I

**Birkhäuser** Geodynamics concerns with the dynamics of the global motion of the earth, of the motion in the earth's interior and its interaction with surface features, together with the mechanical processes in the deformation and rupture of geological structures. Its final object is to determine the driving mechanism of these motions which is highly interdisciplinary. In preparing the basic geological, geophysical data required for a comprehensive mechanical analysis, there are also many mechanical problems involved, which means the problem is coupled in a complicated manner with geophysics, rock mechanics, seismology, structural geology etc. This topical issue is Part I of the Proceedings of an IUTAM / IASPEI Symposium on Mechanics Problems in Geodynamics held in Beijing, September 1994. It addresses different aspects of mechanics problems in geodynamics involving tectonic analyses, lithospheric structures, rheology and the fracture of earth media, mantle flow, either globally or regionally, and either by forward or inverse analyses or numerical simulation.

Indian Journal of Pure & Applied Physics