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*Downscaling Techniques for High-Resolution Climate Projections Handbook of High-resolution Spectroscopy High Resolution NMR in Solids Selective Averaging Book Design Made Simple High-Resolution Laser Spectroscopy High Resolution Imaging in Microscopy and Ophthalmology High-resolution CT of the Lung Very High Resolution (VHR) Satellite Imagery High Resolution Applications in High Resolution Mass Spectrometry Very High Resolution Photoelectron Spectroscopy Structure of High-Resolution NMR Spectra High resolution NMR [nuclear magnetic resonance]. Modern Techniques in High-Resolution FT-NMR High-Resolution X-Ray Scattering High Resolution Radar Fundamentals of High-Resolution Lung CT High-Resolution Electron Microscopy for Materials Science High-Resolution Electron Microscopy High-resolution NMR Techniques in Organic Chemistry High Resolution NMR of Macromolecules High-resolution Seismic Exploration Guidelines for Selecting Seismic Detectors for High Resolution Applications High-Resolution Electrophoresis and Immunofixation Webb, Müller and Naidich's High-Resolution CT of the Lung Challenges and Solutions in Sample Preparation for High-Resolution Cryo-Electron Microscopy Principles of High-resolution Radar Vertical Resolution of Temperature Profiles for High Resolution Infrared Radiation Sounder (HIRS) High-Resolution and Robust Signal Processing High-Resolution and Robust Signal Processing High Resolution Spectroscopy High-Resolution Imaging and Spectrometry of Materials Optical Multichannel Analyzer Techniques for High Resolution Optical Spectroscopy High Resolution Radar High-Resolution Methods for Incompressible and Low-Speed Flows High-Resolution Approaches in Stratigraphic Paleontology Upwind and High-Resolution Schemes High-Resolution Noisy Signal and Image Processing High-Resolution Electron Microscopy Handbook of High*

## *Resolution Multinuclear NMR*

*Vertical Resolution of Temperature Profiles for High Resolution Infrared Radiation Sounder (HIRS) Sep 03 2020*

*Webb, Müller and Naidich's High-Resolution CT of the Lung Dec 07 2020* Over the past 30 years high-resolution CT (HRCT) has matured to become an integral part of the multidisciplinary evaluation in diffuse lung disease. In this regard, Webb, Muller and Naidich's *High-Resolution CT of the Lung, 6th Edition*, is a 'gold standard' reference that aims to keep radiologists and pulmonologists alike at the cutting edge of the ever-evolving field of thoracic imaging. The new US-European author team continues the tradition of excellence which readers have come to expect while the underlying layout and ethos — established by the 'founding' author team — remain. The new edition aims to bring readers up to date not only with recent advances but also with the important conceptual changes in thinking in various fields of thoracic imaging. Also featured in this updated edition is authoritative guidance on HRCT findings and differential diagnosis, as well as the characteristics of the common lung diseases assessed using HRCT, all enhanced by a multitude of new images and updated content throughout.

*High Resolution Radar Feb 27 2020*

*High-Resolution Electrophoresis and Immunofixation Jan 08 2021*

*High-Resolution Electrophoresis and Immunofixation: Techniques and Interpretation* acquaints the reader with the available methodologies and instrumentation for performing high-resolution electrophoresis and immunofixation. This text presents the use of procedures of high-resolution electrophoresis and immunofixation to facilitate the diagnosis of a variety of serum protein abnormalities. It also provides case examples to illustrate the uses of these procedures and their possible caveats. The book contains chapters devoted to the methods and rationale for high-resolution electrophoresis; interpretation of high-resolution electrophoresis patterns in serum, urine, and cerebrospinal fluid; the immunofixation technique; and strategies for diagnosing

*monoclonal gammopathies. Medical technologists, physicians, and pathologists will find the book invaluable.*

*Principles of High-resolution Radar Oct 05 2020 The development of radar resolution theory is examined in this text. Key topics include the capabilities and limits of radar, the details of radar design, fundamentals of waveform analysis, pulse compression waveforms, coherent pulse trains and detection c*

*High Resolution Imaging in Microscopy and Ophthalmology Jul 26 2022 This open access book provides a comprehensive overview of the application of the newest laser and microscope/ophthalmoscope technology in the field of high resolution imaging in microscopy and ophthalmology. Starting by describing High-Resolution 3D Light Microscopy with STED and RESOLFT, the book goes on to cover retinal and anterior segment imaging and image-guided treatment and also discusses the development of adaptive optics in vision science and ophthalmology. Using an interdisciplinary approach, the reader will learn about the latest developments and most up to date technology in the field and how these translate to a medical setting. High Resolution Imaging in Microscopy and Ophthalmology – New Frontiers in Biomedical Optics has been written by leading experts in the field and offers insights on engineering, biology, and medicine, thus being a valuable addition for scientists, engineers, and clinicians with technical and medical interest who would like to understand the equipment, the applications and the medical/biological background. Lastly, this book is dedicated to the memory of Dr. Gerhard Zinser, co-founder of Heidelberg Engineering GmbH, a scientist, a husband, a brother, a colleague, and a friend.*

*High-resolution CT of the Lung Jun 24 2022 The thoroughly revised Third Edition of this widely acclaimed volume explains how to use the newest high-resolution CT technology to diagnose lung disease. Still the only text on the topic, this compact, affordable reference is written by the foremost experts in the field and provides cutting-edge technical and clinical information. This edition reviews new findings on expiratory scans and recent changes in the classification of interstitial pneumonia.*

Coverage includes descriptions of many additional disease entities, as well as new diagnostic algorithms. The extensively revised art program features more than 400 illustrations. A Brandon-Hill recommended title. [High-Resolution Approaches in Stratigraphic Paleontology](#) Dec 27 2019 This volume delves into a spectrum of theoretical as well as applied aspects of high-resolution stratigraphic approaches in paleontology. It explores how increasingly detailed knowledge of the fossil record can enhance our understanding of the evolution of life on Earth and also allows geoscientists to address a broad range of important evolutionary and environmental questions in this arena. A 'zipped' version of the program CONOP9 2007 along with read-me files, sample files, and other documentation are available via a web site (see below). An earlier version of CONOP9 was initially supplied with 'High-Resolution Approaches in Stratigraphic Paleontology' (PJ Harries, editor) and described in Chapter 13 of that volume. This is an updated version of the program, and the documentation supplied with this version supersedes the information supplied in that chapter. To view the CONOP9 Programs, click on the link [CONOP9 Programs](#) on the right side of this page under Related links.

[Very High Resolution \(VHR\) Satellite Imagery](#) May 24 2022 Recently, growing interest in the use of remote sensing imagery has appeared to provide synoptic maps of water quality parameters in coastal and inner water ecosystems; monitoring of complex land ecosystems for biodiversity conservation; precision agriculture for the management of soils, crops, and pests; urban planning; disaster monitoring, etc. However, for these maps to achieve their full potential, it is important to engage in periodic monitoring and analysis of multi-temporal changes. In this context, very high resolution (VHR) satellite-based optical, infrared, and radar imaging instruments provide reliable information to implement spatially-based conservation actions. Moreover, they enable observations of parameters of our environment at greater broader spatial and finer temporal scales than those allowed through field observation alone. In this sense, recent very high resolution satellite technologies and image processing algorithms present the opportunity

*to develop quantitative techniques that have the potential to improve upon traditional techniques in terms of cost, mapping fidelity, and objectivity. Typical applications include multi-temporal classification, recognition and tracking of specific patterns, multisensor data fusion, analysis of land/marine ecosystem processes and environment monitoring, etc. This book aims to collect new developments, methodologies, and applications of very high resolution satellite data for remote sensing. The works selected provide to the research community the most recent advances on all aspects of VHR satellite remote sensing.*

*Handbook of High-resolution Spectroscopy Nov 29 2022 The field of High-Resolution Spectroscopy has been considerably extended and even redefined in some areas. Combining the knowledge of spectroscopy, laser technology, chemical computation, and experiments, Handbook of High-Resolution Spectroscopy provides a comprehensive survey of the whole field as it presents itself today, with emphasis on the recent developments. This essential handbook for advanced research students, graduate students, and researchers takes a systematic approach through the range of wavelengths and includes the latest advances in experiment and theory that will help and guide future applications. The first comprehensive survey in high-resolution molecular spectroscopy for over 15 years Brings together the knowledge of spectroscopy, laser technology, chemical computation and experiments Brings the reader up-to-date with the many advances that have been made in recent times Takes the reader through the range of wavelengths, covering all possible techniques such as Microwave Spectroscopy, Infrared Spectroscopy, Raman Spectroscopy, VIS, UV and VUV Combines theoretical, computational and experimental aspects Has numerous applications in a wide range of scientific domains Edited by two leaders in this field Provides an overview of rotational, vibration, electronic and photoelectron spectroscopy Volume 1 - Introduction: Fundamentals of Molecular Spectroscopy Volume 2 - High-Resolution Molecular Spectroscopy: Methods and Results Volume 3 - Special Methods & Applications*

*High-Resolution Electron Microscopy Jun 12 2021 This book describes how to see atoms using electron microscopes. This new edition includes updated sections on applications and new uses of atomic-resolution transmission electron microscopy. Several new chapters and sources of software for image interpretation and electron-optical design have also been added.*

*High-Resolution X-Ray Scattering Oct 17 2021 During the last 20 years interest in high-resolution x-ray diffractometry and reflectivity has grown as a result of the development of the semiconductor industry and the increasing interest in material research of thin layers of magnetic, organic, and other materials. For example, optoelectronics requires a subsequent epitaxy of thin layers of different semiconductor materials. Here, the individual layer thicknesses are scaled down to a few atomic layers in order to exploit quantum effects. For reasons of electronic and optical confinement, these thin layers are embedded within much thicker cladding layers or stacks of multilayers of slightly different chemical composition. It is evident that the interface quality of those quantum wells is quite important for the function of devices. Thin metallic layers often show magnetic properties which do not appear for thick layers or in bulk material. The investigation of the mutual interaction of magnetic and non-magnetic layers leads to the discovery of colossal magnetoresistance, for example. This property is strongly related to the thickness and interface roughness of covered layers.*

*High Resolution Radar Sep 15 2021 Enhances your understanding of the concepts and design techniques for high-resolution radar systems.*

*Applications in High Resolution Mass Spectrometry Mar 22 2022 Applications of High Resolution Mass Spectrometry: Food Safety and Pesticide Residue Analysis is the first book to offer complete coverage of all aspects of high resolution mass spectrometry (HRMS) used for the analysis of pesticide residue in food. Aimed at researchers and graduate students in food safety, toxicology, and analytical chemistry, the book equips readers with foundational knowledge of HRMS, including established and state-of-the-art principles and analysis strategies. Additionally, it provides a roadmap for implementation,*

*including discussions of the latest instrumentation and software available. Detailed coverage is given to the application of HRMS coupled to ultra high-performance liquid chromatography (UHPLC-HRMS) in the analysis of pesticide residue in fruits and vegetables and food from animal origin. The book also discusses extraction procedures and the challenges of sample preparation, gas chromatography coupled to high resolution mass spectrometry, flow injection-HRMS, ambient ionization, and identification of pesticide transformation products in food. Responding to the fast development and application of these new procedures, this book is an essential resource in the food safety field. Arms researchers with an in-depth resource devoted to the rapid advances in HRMS tools and strategies for pesticide residue analysis in food Provides a complete overview of analytical methodologies and applications of HRMS, including UHPLC-HRMS, HRMS coupled with time of flight (TOF) and/or GC-Orbitrap, and flow injection-HRMS Discusses the current international regulations and legislation related to the use of HRMS in pesticide residue analysis Features a chapter on the hardware and software available for HRMS implementation Offers separate chapters on HRMS applied to pesticide residue analysis in fruits and vegetables and in food from animal origin*

*Upwind and High-Resolution Schemes* Nov 25 2019 One of the major achievements in computational fluid dynamics has been the development of numerical methods for simulating compressible flows, combining higher-order accuracy in smooth regions with a sharp, oscillation-free representation of embedded shocks methods and now known as "high-resolution schemes". Together with introductions from the editors written from the modern vantage point this volume collects in one place many of the most significant papers in the development of high-resolution schemes as occurred at ICASE.

*High-Resolution and Robust Signal Processing* Aug 03 2020 *High-Resolution and Robust Signal Processing* describes key methodological and theoretical advances achieved in this domain over the last twenty years, placing emphasis on modern developments and

recent research pursuits. Applications-grounded, this sophisticated resource links theoretical background with high-resolution methods used in wireless communications, brain signal analysis, and space-time radar signal processing. Chapter extras include theorem proofs, derivations, and computational shortcuts, as well as open problems, numerical measurement, and performance examples, and simulation results. Sixteen illustrious field leaders invest *High-Resolution and Robust Signal Processing with:* in-depth reviews of parametric high-resolution estimation and detection techniques; robust array processing solutions for adaptive beam forming and high-resolution direction finding; Parafac techniques for high-resolution array processing and specific areas of application; high-resolution nonparametric methods and implementation tactics for spectral analysis; multidimensional high-resolution data models and discussion of R-D unitary ESPRIT with colored noise; multidimensional high-resolution parameter estimation techniques applicable to channel sounding; estimation procedures for high-resolution space-time radar signal processing using 2-D or 1-D/1-D models; and models and methods for EEG/MEG space-time dipole source estimation and sensory array design.

*Modern Techniques in High-Resolution FT-NMR* Nov 17 2021 General theory. One-dimensional experiments in liquids. Coherence transfer. Two-dimensional experiments in liquids. Multiple-quantum spectroscopy. High-resolution pulse NMR in solids. Experimental methods. matrix algebra and Spin-1 operators. The Hausdorff formula. Fourier transformation. Dipolar relaxation. Magnus expansion and the average hamiltonian theory. Tensor representation of spin Hamiltonians.

*High Resolution NMR in Solids Selective Averaging* Oct 29 2022 *High Resolution NMR in Solids: Selective Averaging* presents the principles and applications of the four approaches to high resolution NMR in solids — magic-angle sample spinning, multiple-pulse, proton-enhanced nuclear induction, and indirect detection methods. Divided into six chapters, this book initially describes the tensorial properties of nuclear



*spin interactions in both ordinary and spin spaces. It then deals with the manifestations of nuclear magnetic shielding in NMR spectra of both single-crystal and powder samples, and then discusses the techniques for analyzing spectra and rotation patterns in terms of shielding tensors. A wide range of NMR phenomena that are result of intentional or natural, selective or unselective averaging processes and the average Hamiltonian theory that yields the inclusion of correction are covered. This book also provides a detailed discussion on multiple-pulse sequences intended for high resolution NMR in solids. The concluding chapter examines the applications of multiple-pulse techniques, with particular emphasis on measurements of  $^{19}\text{F}$  and  $^1\text{H}$  shielding tensors. Discussions on rotations of angular momentum operators; time ordering and the Magnus expansion; off-resonance averaging of the second-order dipolar Hamiltonian; and phase transients are covered in the supplemental texts.*

*High-Resolution Noisy Signal and Image Processing Oct 24 2019 The book introduces valuable new data analysis methods in time and space, and provides many examples and recommendations for new developments. It will teach the reader how to use powerful, but very flexible, tools, frequently referred to as Kolmogorov-Zurbenko Filters. The main construction of these tools is derived from spectral concepts where natural laws occur. Rather than forcing models on data, they allow us to discover the nature of phenomena hidden within the data. The methods outlined here are capable of obtaining accurate results within very noisy environments. Their extremely accurate spectral diagnostics permits the separation of different sources of influences within the data. Treating each source separately can achieve highly accurate explanations of the total picture. For example, this approach is able to identify the most dangerous moments and locations for hurricanes and tornados.*

*High-resolution Seismic Exploration Mar 10 2021 Capitalizing on knowledge learned over decades and combining underlying theory with practical bases, this book presents a systematic analysis of the issues involved in high-resolution seismic exploration. Translated from the*

*original Chinese edition published in 1993 by Petroleum Industry Press and now updated to reflect contemporary developments, the book is adept at clarifying the objectives and approaches toward better precision in seismic prospecting. It provides innovative views on fundamental concepts including: perspective resolution and perspective S/N; the empirical relationship between compressional velocity ( $V_p$ ) and absorption coefficient ( $Q$ ); constructing basin absorption models; understanding sand layer tracking; improving dynamic and static corrections of near-surface effects as well as deconvolution; achieving maximum effective bandwidth of seismic data; and regressive seismic impedance inversion. It is an excellent reference for those involved in seismic prospecting research, data processing, and geologic interpretation, and it is recommended for workers as well as professors and graduate students.*

*High Resolution NMR of Macromolecules Apr 10 2021 High Resolution NMR of Macromolecules presents the development in the NMR study of polymers. This book discusses the exciting area of application of NMR to polymer science as the result of the more general accessibility of instruments of high magnetic field. Organized into 15 chapters, this book begins with an overview of the spectral analysis and the dependence of chemical shifts and J couplings on structure. This text then discusses the isomerism in polymer chains without special reference to NMR. Other chapters consider the interpretation of synthetic polymer spectra in terms of structure, stereochemical configuration, conformation, and chain growth mechanism. This book discusses as well the application of high resolution NMR to the study of nucleic acids, which has not been so well developed as that of polypeptides and proteins. The final chapter deals with biopolymers and their model compounds. This book is a valuable resource for chemists and research workers.*

*High Resolution Spectroscopy May 31 2020 High Resolution Spectroscopy discusses the underlying concepts in the different branches of spectroscopy, especially in high resolution spectroscopy. The coverage of the book includes basic principles such as the*

*quantization of energy, as well as the interaction of electromagnetic radiation with atoms and molecules; general experimental methods and features of instrumentation; and microwave, millimeter wave, and lamb dip spectroscopy. Also covered in the book are subjects such as the principles behind rotational spectroscopy; diatomic and polyatomic molecules in vibrational spectroscopy; and the electronic spectroscopy of atoms, as well as diatomic and polyatomic molecules. The text is recommended for engineers and physicists who would like to know more about the concepts, theories, methods, and instrumentation related to spectroscopy, particularly in the field of high resolution spectroscopy.*

*Guidelines for Selecting Seismic Detectors for High Resolution Applications Feb 06 2021*

*High-Resolution and Robust Signal Processing Jul 02 2020 High-Resolution and Robust Signal Processing describes key methodological and theoretical advances achieved in this domain over the last twenty years, placing emphasis on modern developments and recent research pursuits. Applications-grounded, this sophisticated resource links theoretical background with high-resolution methods used in wireless communications, brain signal analysis, and space-time radar signal processing. Chapter extras include theorem proofs, derivations, and computational shortcuts, as well as open problems, numerical measurement, and performance examples, and simulation results Sixteen illustrious field leaders invest High-Resolution and Robust Signal Processing with: in-depth reviews of parametric high-resolution estimation and detection techniques; robust array processing solutions for adaptive beam forming and high-resolution direction finding; Parafac techniques for high-resolution array processing and specific areas of application; high-resolution nonparametric methods and implementation tactics for spectral analysis; multidimensional high-resolution data models and discussion of R-D unitary ESPRIT with colored noise; multidimensional high-resolution parameter estimation techniques applicable to channel sounding; estimation procedures for high-resolution space-time radar*

signal processing using 2-D or 1-D/1-D models; and models and methods for EEG/MEG space-time dipole source estimation and sensory array design.

Book Design Made Simple Sep 27 2022 *Book Design Made Simple* gives DIY authors, small presses, and graphic designers-novices and experts alike-the power to design their own books. It's the first comprehensive book of its kind, explaining every step from installing Adobe InDesign right through to sending the files to press. For those who want to design their own books but have little idea how to proceed, *Book Design Made Simple* is a semester of book design instruction plus a publishing class rolled into one. Let two experts guide you through the process with easy step-by-step instructions, resulting in a professional-looking top-quality book

Fundamentals of High-Resolution Lung CT Aug 15 2021 *Fundamentals of High Resolution Lung CT* presents a simple and concise approach to the HRCT diagnosis of diffuse lung disease. It is simple and straightforward and covers similar material presented in "High-Resolution CT of the Lung", in a brief and approachable format. The chapters and illustrations are based upon, and demonstrate, the fundamental observations, rules, shortcuts, thought patterns and differential diagnosis used in every day clinical practice. This content is intended to review your basic and practical understanding of the lung diseases commonly assessed using HRCT.

High Resolution Apr 22 2022 At the heart of this important new book is the tension between literacy and the open acknowledgement of discrepancies within social and linguistic fields on the one hand, and what Sussman terms the resolving function, the utopian picture of harmony depicted by the state and large organizations, on the other. After discussing some examples of the resolving function--Barthes's notion of the myth, Kundera's fictional treatment of kitsch, and contemporary television--Sussman draws on a line of theoretical inquiry extending from Saussure to Derrida in order to put forth a differential model of literacy in which the skills necessary to participate productively in culture are more disjunctive than associative in nature.

*Awareness of the discrepancies set into play by language is necessary, he argues, for both the individual and the society to understand the complex and sometimes contradictory web of socioeconomic, political, and semiological relations in which they are involved. Combining literary theory with close textual readings of works by Hawthorne, Melville, Wallace Stevens, Ezra Pound, William Carlos Williams, and Italo Calvino, this book is the first to explore the socio-political correlatives to literary studies--the mass media's ambivalence toward the linguistic apprehensions and skills that make them possible.*

*Handbook of High Resolution Multinuclear NMR Aug 22 2019*

*High-Resolution Methods for Incompressible and Low-Speed Flows Jan 26 2020 The study of incompressible flows is vital to many areas of science and technology. This includes most of the fluid dynamics that one finds in everyday life from the flow of air in a room to most weather phenomena.*

*In undertaking the simulation of incompressible fluid flows, one often takes many issues for granted. As these flows become more realistic, the problems encountered become more vexing from a computational point-of-view. These range from the benign to the profound. At once, one must contend with the basic character of incompressible flows where sound waves have been analytically removed from the flow. As a consequence vortical flows have been analytically "preconditioned," but the flow has a certain non-physical character (sound waves of infinite velocity). At low speeds the flow will be deterministic and ordered, i.e., laminar. Laminar flows are governed by a balance between the inertial and viscous forces in the flow that provides the stability. Flows are often characterized by a dimensionless number known as the Reynolds number, which is the ratio of inertial to viscous forces in a flow. Laminar flows correspond to smaller Reynolds numbers. Even though laminar flows are organized in an orderly manner, the flows may exhibit instabilities and bifurcation phenomena which may eventually lead to transition and turbulence. Numerical modelling of such phenomena requires high accuracy and most importantly to gain greater*

*insight into the relationship of the numerical methods with the low physics.*

*High-Resolution Electron Microscopy for Materials Science* Jul 14 2021 High-resolution electron microscopy (HREM) has become a most powerful method for investigating the internal structure of materials on an atomic scale of around 0.1 nm. The authors clearly explain both the theory and practice of HREM for materials science. In addition to a fundamental formulation of the imaging process of HREM, there is detailed explanation of image simulation indispensable for interpretation of high-resolution images. Essential information on appropriate imaging conditions for observing lattice images and structure images is presented, and methods for extracting structural information from these observations are clearly shown, including examples in advanced materials. Dislocations, interfaces, and surfaces are dealt with, and materials such as composite ceramics, high-T<sub>c</sub> superconductors, and quasicrystals are also considered. Included are sections on the latest instruments and techniques, such as the imaging plate and quantitative HREM.

*Challenges and Solutions in Sample Preparation for High-Resolution Cryo-Electron Microscopy* Nov 05 2020

*High resolution NMR [nuclear magnetic resonance].* Dec 19 2021 *Structure of High-Resolution NMR Spectra* Jan 20 2022 *Structure of High-Resolution NMR Spectra* provides the principles, theories, and mathematical and physical concepts of high-resolution nuclear magnetic resonance spectra. The book presents the elementary theory of magnetic resonance; the quantum mechanical theory of angular momentum; the general theory of steady state spectra; and multiple quantum transitions, double resonance and spin echo experiments. Physicists, chemists, and researchers will find the book a valuable reference text.

*High-Resolution Imaging and Spectrometry of Materials* Apr 30 2020 *The characterisation of materials and material systems is an essential aspect of materials science. A few decades ago it became obvious that, because the properties of materials depend so critically on the*

*microstructure of their components, this characterisation must be determined to the atomic level. This means that the position - as well as the nature - of individual atoms has to be determined at "critical" regions close to defects such as dislocations, interfaces, and surfaces. The great impact of advanced transmission electron microscopy (TEM) techniques became apparent in the area of semiconducting materials, where the nature of internal interfaces between silicon and the corresponding silicides could be identified, and the results used to enhance the understanding of the properties of the compounds studied. At that time, advanced TEM techniques existed predominantly in the US. However, advanced TEM instrumentation was not available in the materials science and solid-state science communities in Germany. This gap was bridged by the late Peter Haasen who, after a visit to the US, initiated a Priority Programme on Microstructural Characterisation at the Volkswagen Foundation (Hannover). The programme was in effect from 1985 to 1997 and supported a wide range of research projects - from fundamental, trendy, innovative projects to projects in applied materials science.*

*Optical Multichannel Analyzer Techniques for High Resolution Optical Spectroscopy Mar 29 2020*

*Downscaling Techniques for High-Resolution Climate Projections Dec 31 2022 Downscaling is a widely used technique for translating information from large-scale climate models to the spatial and temporal scales needed to assess local and regional climate impacts, vulnerability, risk and resilience. This book is a comprehensive guide to the downscaling techniques used for climate data. A general introduction of the science of climate modeling is followed by a discussion of techniques, models and methodologies used for producing downscaled projections, and the advantages, disadvantages and uncertainties of each. The book provides detailed information on dynamic and statistical downscaling techniques in non-technical language, as well as recommendations for selecting suitable downscaled datasets for different applications. The use of downscaled climate data in national and international assessments is also*

*discussed using global examples. This is a practical guide for graduate students and researchers working on climate impacts and adaptation, as well as for policy makers and practitioners interested in climate risk and resilience.*

*High-Resolution Electron Microscopy Sep 23 2019 This new fourth edition of the standard text on atomic-resolution transmission electron microscopy (TEM) retains previous material on the fundamentals of electron optics and aberration correction, linear imaging theory (including wave aberrations to fifth order) with partial coherence, and multiple-scattering theory. Also preserved are updated earlier sections on practical methods, with detailed step-by-step accounts of the procedures needed to obtain the highest quality images of atoms and molecules using a modern TEM or STEM electron microscope. Applications sections have been updated - these include the semiconductor industry, superconductor research, solid state chemistry and nanoscience, and metallurgy, mineralogy, condensed matter physics, materials science and material on cryo-electron microscopy for structural biology. New or expanded sections have been added on electron holography, aberration correction, field-emission guns, imaging filters, super-resolution methods, Ptychography, Ronchigrams, tomography, image quantification and simulation, radiation damage, the measurement of electron-optical parameters, and detectors (CCD cameras, Image plates and direct-injection solid state detectors). The theory of Scanning transmission electron microscopy (STEM) and Z-contrast are treated comprehensively. Chapters are devoted to associated techniques, such as energy-loss spectroscopy, Alchemi, nanodiffraction, environmental TEM, twisty beams for magnetic imaging, and cathodoluminescence. Sources of software for image interpretation and electron-optical design are given.*

*Very High Resolution Photoelectron Spectroscopy Feb 18 2022 Photoemission spectroscopy is one of the most extensively used methods to study the electronic structure of atoms, molecules, and solids and their surfaces. This volume introduces and surveys the field at highest energy and momentum resolutions allowing for a new range*



*of applications, in particular for studies of high temperature superconductors.*

*High-Resolution Laser Spectroscopy Aug 27 2022 With contributions by numerous experts*

*High-resolution NMR Techniques in Organic Chemistry May 12 2021*  
*From the initial observation of proton magnetic resonance in water and in paraffin, the discipline of nuclear magnetic resonance has seen unparalleled growth as an analytical method. Modern NMR spectroscopy is a highly developed, yet still evolving, subject which finds application in chemistry, biology, medicine, materials science and geology. In this book, emphasis is on the more recently developed methods of solution-state NMR applicable to chemical research, which are chosen for their wide applicability and robustness. These have, in many cases, already become established techniques in NMR laboratories, in both academic and industrial establishments. A considerable amount of information and guidance is given on the implementation and execution of the techniques described in this book.*

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