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KEY=IMAGES - LLOYD CARDENAS

Handbook of X-ray Imaging Physics and Technology

CRC Press Containing chapter contributions from over 130 experts, this unique publication is the first handbook dedicated to the physics and technology of X-ray imaging, offering extensive coverage of the field. This highly comprehensive work is edited by one of the world's leading experts in X-ray imaging physics and technology and has been created with guidance from a Scientific Board containing respected and renowned scientists from around the world. The book's scope includes 2D and 3D X-ray imaging techniques from soft-X-ray to megavoltage energies, including computed tomography, fluoroscopy, dental imaging and small animal imaging, with several chapters dedicated to breast imaging techniques. 2D and 3D industrial imaging is incorporated, including imaging of artworks. Specific attention is dedicated to techniques of phase contrast X-ray imaging. The approach undertaken is one that illustrates the theory as well as the techniques and the devices routinely used in the various fields. Computational aspects are fully covered, including 3D reconstruction algorithms, hard/software phantoms, and computer-aided diagnosis. Theories of image quality are fully illustrated. Historical, radioprotection, radiation dosimetry, quality assurance and educational aspects are also covered. This handbook will be suitable for a very broad audience, including graduate students in medical physics and biomedical engineering; medical physics residents; radiographers; physicists and engineers in the field of imaging and non-destructive industrial testing using X-rays; and scientists interested in understanding and using X-ray imaging techniques. The handbook's editor, Dr. Paolo Russo, has over 30 years' experience in the academic teaching of medical physics and X-ray imaging research. He has authored several book chapters in the field of X-ray imaging, is Editor-in-Chief of an international scientific journal in medical physics, and has responsibilities in the publication committees of international scientific organizations in medical physics. Features: Comprehensive coverage of the use of X-rays both in medical radiology and industrial testing The first handbook published to be dedicated to the physics and technology of X-rays Handbook edited by world authority, with contributions from experts in each field

X-Ray Equipment Maintenance and Repairs Workbook for Radiographers and Radiological Technologists

World Health Organization The X-ray equipment maintenance and repairs workbook is intended to help and guide staff working with, and responsible for, radiographic equipment and installations in remote institutions where the necessary technical support is not available, to perform routine maintenance and minor repairs of equipment to avoid break downs. The book can be used for self study and as a checklist for routine maintenance procedures.

Filmless Radiology

Springer Science & Business Media This book examines the use of state-of-the-art technology to achieve filmless radiology, describing its impact on healthcare systems and providing valuable insights into reengineering healthcare. Sharing expertise developed in implementing Picture Archival and Communications System (PACS) technology capable of supporting filmless radiology, it relates experiences at the Baltimore Veterans Administration Medical Center (VAMC), the first site to have a fully operational filmless radiology system. The book will provide an overview of filmless radiology with advice on acquiring PAC systems. Also included are sections on its impact on the practice of radiology and the delivery of health care (filmless radiology is central to teleradiology), clinical uses of computed radiography, technological issues, and case studies from both inside and outside the VA system.

Safety of Laser Products

Solar Cells and Their Applications

John Wiley & Sons A major update of solar cell technology and the solar marketplace Since the first publication of this important volume over a decade ago, dramatic changes have taken place with the solar market growing almost 100-fold and the U.S. moving from first to fourth place in the world market as analyzed in this Second Edition. Three bold new opportunities are identified for any countries wanting to improve market position. The first is combining pin solar cells with 3X concentration to achieve economic competitiveness near term. The second is charging battery-powered cars with solar cell-generated electricity from arrays in surrounding areas—including the car owners' homes—while simultaneously reducing their home electricity bills by over ninety percent. The third is formation of economic "unions" of sufficient combined economic size to be major competitors. In this updated edition, feed-in tariffs are identified as the most effective approach for public policy. Reasons are provided to explain why pin solar cells outperform more traditional pn solar cells. Field test data are reported for nineteen percent pin solar cells and for ~500X concentrating systems with bare cell efficiencies approaching forty percent. Paths to bare cell efficiencies over fifty percent are described, and key missing program elements are identified. Since government support is needed for new technology prototype integration and qualification testing before manufacturing scale up, the key economic measure is identified in this volume as the electricity cost in cents per kilowatt-hour at the complete installed system level, rather than just the up-front solar cell modules' costs in dollars per watt. This Second Edition will benefit technologists in the fields of solar cells and systems; solar cell researchers; power systems designers; academics studying microelectronics, semiconductors, and solar cells; business students and investors with a technical focus; and government and political officials developing public policy.

Radiography in Modern Industry

Neutron Radiography

WCNR-11

Materials Research Forum LLC Neutron radiography represents a powerful non-destructive testing technique that is still very much in development. The book reveals the amazing diversity of scientific and industrial applications of this technique, the advancements of the state-of-art neutron facilities, the latest method developments, and the expected future of neutron imaging.

Handbook of Nondestructive Evaluation

McGraw Hill Professional Perform Accurate, Cost-Effective Product Testing Nondestructive testing has become the leading product testing standard, and Handbook of Non-Destructive Evaluations by Chuck Hellier is the unparalleled one-stop, A-to-Z guide to this subject. Covering the background, benefits, limitations, and applications of each, this decision-simplifying resource looks at both the major and emerging nondestructive evaluation methods, including: visual testing...penetrant testing...magnetic particle testing...radiographic testing...Ultrasonic testing... eddy current testing...thermal infrared testing...and acoustic emission testing. In clear, understandable terms, the Handbook shows you how to interpret results and formulate the right decisions based on them, making it a welcome resource for engineers, metallurgists, quality control specialists, and anyone else involved in product design, manufacture, or maintenance. The Handbook is also the ideal prep tool if you're seeking certification in AWS/CSWIP, ASNT Level III, ACCP, and IRRSP programs. If you're looking for a one-stop answer to all your nondestructive testing questions, your search ends here.

Digital Imaging Systems for Plain Radiography

Springer Science & Business Media Advances in digital technology led to the development of digital x-ray detectors that are currently in wide use for projection radiography, including Computed Radiography (CR) and Digital Radiography (DR). Digital Imaging Systems for Plain Radiography addresses the current technological methods available to medical imaging professionals to ensure the optimization of the radiological process concerning image quality and reduction of patient exposure. Based on extensive research by the authors and reference to the current literature, the book addresses how exposure parameters influence the diagnostic quality in digital systems, what the current acceptable radiation doses are for useful diagnostic images, and at what level the dose could be reduced to maintain an accurate diagnosis. The book is a valuable resource for both students learning the field and for imaging professionals to apply to their own practice while performing radiological examinations with digital systems.

Applications of X-ray Computed Tomography in the Geosciences

[Geological Society of London](#) X-ray computed tomography (CT) is a technique that allows non-destructive imaging and quantification of internal features of objects. X-ray CT reveals differences in density and atomic composition and can therefore be used for the study of porosity, the relative distribution of contrasting solid phases and the penetration of injected solutions. In this book, various applications of X-ray CT in the geosciences are illustrated by papers covering a wide range of disciplines, including petrology, soil science, petroleum geology, geomechanics and sedimentology.

Acute Ischemic Stroke

Imaging and Intervention

[Springer Science & Business Media](#) This updated second edition of *Acute Ischemic Stroke: Imaging and Intervention* provides a comprehensive account of the state of the art in the diagnosis and treatment of acute ischemic stroke. The basic format of the first edition has been retained, with sections on fundamentals such as pathophysiology and causes, imaging techniques and interventions. However, each chapter has been revised to reflect the important recent progress in advanced neuroimaging and the use of interventional tools. In addition, a new chapter is included on the classification instruments for ischemic stroke and their use in predicting outcomes and therapeutic triage. All of the authors are internationally recognized experts and members of the interdisciplinary stroke team at the Massachusetts General Hospital and Harvard Medical School. The text is supported by numerous informative illustrations, and ease of reference is ensured through the inclusion of suitable tables. This book will serve as a unique source of up-to-date information for neurologists, emergency physicians, radiologists and other health care providers who care for the patient with acute ischemic stroke.

Principles of Color Technology

[John Wiley & Sons Incorporated](#) Provides approaches to: what produces and affects color; the description of color in words and numbers; arrangement of color in ordered systems; measurement of color with instruments; calculation of color differences and setting of color tolerances; colorants (dyes and pigments); color mixing and matching (visually and by computer); and recent advances and problem areas. Includes equations, tabulated data, and references updated through mid 1980.

Structural Shielding Design for Medical X-ray Imaging Facilities

[NCRP](#)

Introduction to Nondestructive Testing

[Asq Press](#)

Handbook of X-Ray Spectrometry

[CRC Press](#) "Updates fundamentals and applications of all modes of x-ray spectrometry, including total reflection and polarized beam x-ray fluorescence analysis, and synchrotron radiation induced x-ray emission. Promotes the accurate measurement of samples while reducing the scattered background in the x-ray spectrum."

Narad Networks

[Information Gatekeepers Inc](#)

Photon Counting Detectors for X-ray Imaging

Physics and Applications

[Springer Nature](#) This book first provides readers with an introduction to the underlying physics and state-of-the-art application of photon counting detectors for X-ray imaging. The authors explain that a photon-counting imaging detector can realize quantitative analysis because the detector can derive X-ray attenuation information based on the analysis of intensity changes of individual X-ray. To realize this analysis, it is important to consider the physics of an object and detector material. In this book, the authors introduce a novel analytical procedure to create quantitative X-ray images for medical diagnosis.

Mathematical Physics for Nuclear Experiments

[CRC Press](#) *Mathematical Physics for Nuclear Experiments* presents an accessible introduction to the mathematical derivations of key equations used in describing and analysing results of typical nuclear physics experiments. Instead of merely showing results and citing texts, crucial equations in nuclear physics such as the Bohr's classical formula, Bethe's quantum mechanical formula for energy loss, Poisson, Gaussian and Maxwellian distributions for radioactive decay, and the Fermi function for beta spectrum analysis, among many more, are presented with the mathematical bases of their derivation and with their physical utility. This approach provides readers with a greater connection between the theoretical and experimental sides of nuclear physics. The book also presents connections between well-established results and ongoing research. It also contains figures and tables showing results from the author's experiments and those of his students to demonstrate experimental outcomes. This is a valuable guide for advanced undergraduates and early graduates studying nuclear instruments and methods, medical and health physics courses as well as experimental particle physics courses. Key features Contains over 500 equations connecting theory with experiments. Presents over 80 examples showing physical intuition and illustrating concepts. Includes 80 exercises, with solutions, showing applications in nuclear and medical physics.

ICASI 2020

Proceedings of the 3rd International Conference on Advance & Scientific Innovation, ICASI 2020, 20 June 2020, Medan, Indonesia

[European Alliance for Innovation](#) As an annual event, The 3rd INTERNATIONAL CONFERENCE ON ADVANCE & SCIENTIFIC INNOVATION (ICASI) 2020 continued the agenda to bring together researcher, academics, experts and professionals in examining selected theme by applying multidisciplinary approaches. In 2020, this event will be held in 20 June at Garuda Plaza Hotel Medan. The conference from any kind of stakeholders related with Management, Economy, Administration Business, Tourism, Policy, Law, Operation Management and all research in Social Science and Humanities. Each contributed paper was refereed before being accepted for publication. The double-blind peer reviewed was used in the paper selection.

Beyond the Easel

Decorative Painting by Bonnard, Vuillard, Denis, and Roussel, 1890-1930

[Yale University Press](#) "The Contributions of Artists Pierre Bonnard, Edouard Vuillard, Maurice Denis, and Ker Xavier Roussel to the French avant-garde of the 1890s, as members of the Nabis, are widely recognized. What is less known about these artists' careers is their extraordinary work in decorative painting - work on a large or unusual scale for private interiors. This illustrated book focuses on the many decorative works carried out by the four artists between 1890 and 1930. During these years, they moved beyond the narrow parameters of easel painting and applied their wholly untraditional aesthetic of decoration to a wide range of works for domestic interiors, from wall-size ensembles to folding screens. The cosmopolitan group of patrons who made this work possible ranged from the avant-garde circle of *La Revue Blanche* to prominent members of the French establishment. An examination of their role and tastes is another fascinating feature of this publication." "The book and accompanying exhibition reunite paintings that have long been dispersed, introducing contemporary viewers to a group of bold and evocative works, which had a wide-ranging, though little-recognized, influence on modern art. As the book's authors argue, the aesthetic embodied by these works indeed helped set the stage for the large, non-narrative paintings by artists as diverse as Rothko and Lichtenstein that came to dominate the avant-garde after World War II."--BOOK JACKET.Title Summary field provided by Blackwell North America, Inc. All Rights Reserved

Radiographic Imaging and Exposure

[Mosby Incorporated](#) With comprehensive coverage of both digital radiography and conventional film-screen radiography, *RADIOGRAPHIC IMAGING AND EXPOSURE*, 4th Edition helps you master the fundamental principles of imaging, produce clear images, and reduce the number of repeat radiographs. This practical text also includes Important Relationship, Mathematical Application, and Patient Protection Alert features throughout to provide helpful information every step of the way. Comprehensive coverage of both digital radiography and conventional film-screen radiography helps students and radiographers master the fundamental principles of imaging, produce clear images, and reduce the number of repeat radiographs. UNIQUE! Integrated digital radiography coverage includes information on

how to acquire, process, and display digital images. UNIQUE! Patient Protection Alerts highlight the variables that impact patient exposure and how to control them. UNIQUE! Important Relationships boxes call attention to the fundamentals of radiographic imaging and exposure. UNIQUE! Mathematical Applications boxes familiarize you with the mathematical formulas needed in the clinical setting. NEW! Updated information reflects the latest advances in digital imaging, fluoroscopy, and the X-ray beam with added x-ray emission graphs. NEW! Image receptor and image acquisition coverage describes the construction of image receptors and how the latent (invisible) image is captured, and addresses the advantages and limitations of digital vs. conventional imaging processes. NEW! Image Evaluation chapter allows you to practice applying what you've learned about image quality and exposure technique factors.

Producing Quality Radiographs

[Lippincott Williams & Wilkins](#) This comprehensive guide follows the curriculum of the American Society of Radiologic Technologists. Radiation physics, radiation protection, and quality assurance are integrated with the principles of radiographic exposure.

Practical Guidelines for the Fabrication of Duplex Stainless Steels

Peritoneal Dialysis

From Basic Concepts to Clinical Excellence

[Karger Medical and Scientific Publishers](#) The importance of peritoneal dialysis (PD) in the therapy of chronic kidney disease has been steadily increasing. The simultaneous advancement in clinical practice and basic research has increased overall knowledge and led to significant progress in the safe and adequate application of PD. Moreover, integration with other techniques in the therapy of uremia represents an important step in the optimization of the whole program of renal replacement therapy. Leading experts in the field have contributed to this volume, discussing topics such as the biology of the peritoneal membrane, dialysis solutions, inflammation and nutrition, PD adequacy, or complications and their management or PD in special settings. This compilation updates and expands the information on PD published in previous volumes of the series 'Contributions to Nephrology'. It represents an important source of information for beginners and experts, basic scientists and clinical physicians, students and investigators who want to have a true update on current research and clinical practice in peritoneal dialysis.

Job Shop Lean

An Industrial Engineering Approach to Implementing Lean in High-Mix Low-Volume Production Systems

[CRC Press](#) In the 1950's, the design and implementation of the Toyota Production System (TPS) within Toyota had begun. In the 1960's, Group Technology (GT) and Cellular Manufacturing (CM) were used by Serck Audco Valves, a high-mix low-volume (HMLV) manufacturer in the United Kingdom, to guide enterprise-wide transformation. In 1996, the publication of the book Lean Thinking introduced the entire world to Lean. Job Shop Lean integrates Lean with GT and CM by using the five Principles of Lean to guide its implementation: (1) identify value, (2) map the value stream, (3) create flow, (4) establish pull, and (5) seek perfection. Unfortunately, the tools typically used to implement the Principles of Lean are incapable of solving the three Industrial Engineering problems that HMLV manufacturers face when implementing Lean: (1) finding the product families in a product mix with hundreds of different products, (2) designing a flexible factory layout that "fits" hundreds of different product routings, and (3) scheduling a multi-product multi-machine production system subject to finite capacity constraints. Based on the Author's 20+ years of learning, teaching, researching, and implementing Job Shop Lean since 1999, this book Describes the concepts, tools, software, implementation methodology, and barriers to successful implementation of Lean in HMLV production systems Utilizes Production Flow Analysis instead of Value Stream Mapping to eliminate waste in different levels of any HMLV manufacturing enterprise Solves the three Industrial Engineering problems that were mentioned earlier using software like PFAST (Production Flow Analysis and Simplification Toolkit), Sgetti and Schedlyzer Explains how the one-at-a-time implementation of manufacturing cells constitutes a long-term strategy for Continuous Improvement Explains how product families and manufacturing cells are the basis for implementing flexible automation, machine monitoring, virtual cells, Manufacturing Execution Systems, and other elements of Industry 4.0 Teaches a new method, Value Network Mapping, to visualize large multi-product multi-machine production systems whose Value Streams share many processes Includes real success stories of Job Shop Lean implementation in a variety of production systems such as a forge shop, a machine shop, a fabrication facility and a shipping department Encourages any HMLV manufacturer planning to implement Job Shop Lean to leverage the co-curricular and extracurricular programs of an Industrial Engineering department

Brazing Handbook

[Amer Welding Society](#)

Neurotrophic Factors

[Springer Science & Business Media](#) This book provides critical reviews of the role of neurotrophins and their receptors in a wide variety of diseases including neurodegenerative diseases like Huntington's syndrome, cognitive function, psychiatric disorders such as clinical depression, Rett syndrome, motoneurone disease, spinal cord injury, pain, metabolic disease and cardiovascular disease. It also contains contributions from leaders in the field dealing with the basic biology, transcriptional and post-translational regulation of the neurotrophins and their receptors. The present book will review all recent areas of progress in the study of neurotrophins and their biological roles.

Cancer Basics

From the foundations of cancer to issues of survivorship, this book provides all the details and information needed to gain a true understanding of the 'basics' of cancer.

X-Ray Technician

PENELOPE 2006

a code system for Monte Carlo simulation of electron and photon transport ; Workshop Proceedings, Barcelona, Spain, 4-7 July 2006

Pain Control

[Springer](#) This volume addresses neuronal pain mechanisms at the peripheral, spinal and supraspinal level which are thought to significantly contribute to pain and which may be the basis for the development of new treatment principles. Chapters on nociceptive mechanisms in the peripheral nociceptive system address the concept of hyperalgesic priming, the role of voltage-gated sodium channels in different inflammatory and neuropathic pain states, the hyperalgesic effects of NGF in different tissues and in inflammatory and neuropathic pain states, and the contribution of proteinase activated receptors (PAR) to the development of pain in several chronic pain conditions. Chapters on nociceptive mechanisms in the spinal cord address the particular role of NO and of glial cell activation in the generation and maintenance of inflammatory and neuropathic pain and it discusses the potential role of local inhibitory interneurons, of the endogenous endocannabinoid system and the importance of non-neuronal immune mechanisms in opioid signaling in the control of pain. Furthermore, it is presented how spinal mechanisms contribute to the expression of peripheral inflammation.

Picasso, Picabia, Ernst

New Perspectives

Picasso, Picabia and Ernst were what might be described as true Europeans, settled in Paris but with origins in other European countries, bringing their own culture and experience to the melting pot of the avant-garde which was Paris in the early 20th century. These artists were part of an exciting atmosphere of artistic and technological discovery and experimentation, and they were among the first to embrace new materials and techniques in order to push the boundaries of what could be achieved using both traditional artists' paints and less conventional materials - in certain cases deliberately debunking the fine art establishment and its prescriptive expectations. They also pushed against the conservative, patriotic establishment which emerged from the First World War, and were all major contributors to changing the course of art history in the 20th century. Each had a truly international outlook, taking their work to other parts of Europe and across the Atlantic to the USA. There they made close friends with American avant-garde artists and promoters of modern art, introducing their achievements to the American public, and also taking inspiration from the modern marvel that was New York, which chimed so well with their desire for the new and innovative. This title focuses on new perspectives on some of Tate's key paintings by Picabia, Picasso and Ernst. It is the conclusion of a two-

year study into their history, context, materials and techniques. The paintings selected for the study have almost all been radically reworked by the artist, and both documentary and technical research has been carried out to give new insight into the earlier versions of these works. In addition papers by a number of international art historians, conservators and conservation scientists are included which present new research into Picasso and Picabia, covering both their early and later periods of painting, to give context and a broader perspective.

Practical Neutron Radiography

Springer Tills book is the result of an effort made by several members of the Euratom Neutron Radiography Working Group (NRWG) to produce a new, revised and enlarged edition of the Neutron Radiography Handbook (NRH), written by members of the NRWG and published in 1981, just before the First World Conference on Neutron Radiography (WCNR) (1981). Members of the NRWG have contributed with many papers both to the first (1981)[2], as well as the second (1986)[3] and third (1989) [4] World Conference on Neutron Radiography (WCNR). They were also among the editors of the proceedings of those conferences (1982, 1987, 1990). The NRWG was constituted mainly for the purpose of promoting neutron radiography (NR) in the field of nuclear reactor fuel. Therefore the next topical publication of the NRWG were Reference Neutron Radiographs of Nuclear Reactor Fuel (1984)[5]. The book on Collimators for γ Thermal Neutron Radiograph 6/ written in 1987 by a member of the NRWG was another publication in the same series of books on NR. To the same series belongs the present book on Practical Neutron Radiography (PNR). It will be followed soon by another book written by the members of the NRWG: Neutron Radiography on Nitrocellulose Film⁷1. The NRWG concentrated its interest in the past years on the problem of dimensional measurements from neutron radiographs. The results of the investigation of this problem were summarized in a special EUR report about the Neutron Radiography Working Group Test Program⁸/ published in 1989.

Preserved in Amber

17th century England, civil war between Roundheads and Cavaliers, an innkeeper's daughter begins a torrid affair with a French soldier-of-fortune. Separated by his call of duty to Royalist cause, she realises she is pregnant. Hiding signs from strict parents, news arrives of battle and captured French spies waiting trial and execution. Certain one is her lover; her hope is to appeal to court begging his release. Traumatized witnessing his public execution, she is attacked, raped, rescued by two "ladies-of-the-night" and coerced into prostitution, resulting in early death from syphilis. Bizarre coincidences linked to experiments in "past-life regression" convince a divorced man his liaison with an escort is reincarnation of the lovers. Sensing his responsibility, publishing the story may make amends.

No Greater Love

The Helen Baylor Story

Vision Pub Look at Helen Baylor today and you don't see the anguish of childhood molestation, the isolation resulting from teen-age pregnancy, the desperation of being strung out on drugs, the vulnerability of being homeless, the numbing fear of having witnessed a murder or the pain of being forced to sell her body. You're too caught up in the purity of her singing, the anointing on her voice. You hear the joy of a changed life. As a gospel singer, Helen has few peers. There are many who are better known than she but few who can sing from such depth of conviction -- and with such passion. Her story is raw and compromised. She tells of becoming a teen-age singing sensation, of joining the cast of Hair, of hooking up with the Ike and Tina Turner Review, the Captain & Tennille, a Chaka Khan and Rufus. Then she tells of her friendship with cocaine and her promiscuity. She tells of bright highs and dark lows. She tells of the underside of life and of her glorious deliverance through Jesus Christ. For Helen Baylor, there truly is no greater love.

Platinum and Palladium Photographs

Technical History, Connoisseurship, and Preservation

The volume presents the results of a four-year inter-institutional, interdisciplinary research initiative led and organized by the National Gallery of Art. Contributions by 47 leading photograph conservators, scientists, and historians provide detailed examinations of the chemical, material, and aesthetic qualities of this important class of rare, beautiful, and technically complex photographs. The volume will help those who care for photograph collections gain a thorough appreciation of the technical and aesthetic characteristics of platinum and palladium prints and scientific basis for their preservation.

ASNT Level III Study Guide

Basic

2012 IEEE Nuclear Science Symposium and Medical Imaging Conference Record (NSS/MIC)

October 29-November 3, 2012, Disneyland Hotel, Anaheim, California, USA

Information for Apprentices

X-Ray Phase Contrast Imaging

World Scientific Publishing Company This book fills an important gap in the existing literature by providing a comprehensive discussion of X-ray Phase Contrast Imaging (XPCi) and its various uses and implementations. XPCi could revolutionise all applications of X-ray imaging. It exploits a different mechanism to generate image contrast (refraction/interference instead of absorption), thus enhancing the visibility of all details, allowing the detection of features that are classically considered invisible. XPCi emerged in the mid-1990s, primarily at synchrotron radiation facilities. Initially, its use was considered to be very restricted due to the stringent requirements imposed on the radiation source. New methods which allow XPCi to be used with conventional X-ray sources have recently emerged, thus providing concrete possibilities for transfer into mainstream applications. This has renewed enthusiasm in the field and spawned a large number of new research groups worldwide. This book follows a historical perspective and describes all possible implementations of XPCi. In each case, the underpinning theory is described, the possible experimental realisations are discussed and the targeted applications listed, with specific mentions of the most significant examples. Although sometimes overlooked, X-ray imaging is all-pervasive in our society: medicine, industrial scans, non-destructive testing, security inspections and a vast number of scientific fields rely heavily on it. Hence, the potential impact of XPCi is immense.