Computed Tomography Fundamentals System Technology Image

Computed Tomography Principles, Design, Artifacts, and Recent AdvancesComputed Tomography of the Cardiovascular SystemComputed Tomography for Technologists: Exam ReviewGet Through First FRCR: MCQs for the Physics ModuleOral Radiology - E-BookComputed Tomography for TechnologistsComputed TomographyMedical Applications of a Tunable Monochromatic X-ray Source in Cancer Detection, Diagnosis and TherapyEncyclopedia of Medical Devices and Instrumentation, Capacitive Microsensors for Biomedical Applications - Drug Infusion SystemsFundamentals of Special Radiographic Procedures - E-BookCone Beam Computed TomographyEncyclopedia of Medical Devices and Instrumentation, Hydrocephalus, Tools for Diagnosis and Treatment of - Monoclonal AntibodiesDesign of a Dual Modality PET/Cone Beam CT ScannerCardiovascular Imaging E-BookSpectral Computed TomographyLANGE Review: Computed Tomography ExaminationDevelopment of an Efficient Detector System for Mega Voltage PhotonsCone-beam Reconstruction Algorithms Development and Validation for C-arm Cone-beam CTTechnical Fundamentals of Radiology and CTMicro-computed Tomography (micro-CT) in Medicine and EngineeringCardiac CTObjective Performance Evaluation Methods Adapted to Helical and Multislice CT

ScannersAbdominal Imaging E-BookComputed TomographyComputed TomographyFundamentals of Computerized TomographyComputed TomographyIntegrating Device Data Into the Electronic Medical RecordMedical Imaging SystemsDeformable ModelsMedical ImagingDental Implants - E-BookKalender - Computed Tomography - Fundamentals,System Technology, Image Quality, Applications 4eIntroduction to the Mathematics of Medical ImagingEmission TomographyMagill's Medical GuideComputed TomographyCone Beam Computed TomographyImaging Systems for Medical DiagnosticsMicroComputed Tomography

Computed Tomography Principles, Design, Artifacts, and Recent Advances

PET and SPECT are two of today’s most important medical-imaging methods, providing images that reveal subtle information about physiological processes in humans and animals. Emission Tomography: The Fundamentals of PET and SPECT explains the physics and engineering principles of these important functional-imaging methods. The technology of emission tomography is covered in detail, including historical origins, scientific and mathematical foundations, imaging systems and their components, image reconstruction and analysis, simulation techniques, and clinical and laboratory applications. The book describes the state

of the art of emission tomography, including all facets of conventional SPECT and PET, as well as contemporary topics such as iterative image reconstruction, small-animal imaging, and PET/CT systems. This book is intended as a textbook and reference resource for graduate students, researchers, medical physicists, biomedical engineers, and professional engineers and physicists in the medical-imaging industry. Thorough tutorials of fundamental and advanced topics are presented by dozens of the leading researchers in PET and SPECT. SPECT has long been a mainstay of clinical imaging, and PET is now one of the world's fastest growing medical imaging techniques, owing to its dramatic contributions to cancer imaging and other applications. Emission Tomography: The Fundamentals of PET and SPECT is an essential resource for understanding the technology of SPECT and PET, the most widely used forms of molecular imaging. *Contains thorough tutorial treatments, coupled with coverage of advanced topics *Three of the four holders of the prestigious Institute of Electrical and Electronics Engineers Medical Imaging Scientist Award are chapter contributors *Include color artwork

Computed Tomography of the Cardiovascular System

The book offers a comprehensive and user-oriented description of the theoretical and technical system fundamentals of computed tomography (CT) for a wide readership, from conventional single-slice acquisitions to volume acquisition with multi-slice and cone-beam spiral CT. It covers in detail all characteristic parameters

relevant for image quality and all performance features significant for clinical application. Readers will thus be informed how to use a CT system to an optimum depending on the different diagnostic requirements. This includes a detailed discussion about the dose required and about dose measurements as well as how to reduce dose in CT. All considerations pay special attention to spiral CT and to new developments towards advanced multi-slice and cone-beam CT. For the third edition most of the contents have been updated and latest topics like dual source CT, dual energy CT, flat detector CT and interventional CT have been added. The enclosed CD-ROM again offers copies of all figures in the book and attractive case studies, including many examples from the most recent 64-slice acquisitions, and interactive exercises for image viewing and manipulation. This book is intended for all those who work daily, regularly or even only occasionally with CT: physicians, radiographers, engineers, technicians and physicists. A glossary describes all the important technical terms in alphabetical order. The enclosed DVD again offers attractive case studies, including many examples from the most recent 64-slice acquisitions, and interactive exercises for image viewing and manipulation. This book is intended for all those who work daily, regularly or even only occasionally with CT: physicians, radiographers, engineers, technicians and physicists. A glossary describes all the important technical terms in alphabetical order.

Computed Tomography for Technologists: Exam Review

Get Through First FRCR: MCQs for the Physics Module

Oral Radiology - E-Book

Computed Tomography for Technologists

Conventional computed tomography (CT) techniques employ a narrow array of x-ray detectors and a fan-shaped x-ray beam to rotate around the patient to produce images of thin sections of the patient. Large sections of the body are covered by moving the patient into the rotating x-ray detector and x-ray source gantry. Cone beam CT is an alternative technique using a large area detector and cone-shaped x-ray beam to produce 3D images of a thick section of the body with one full angle (360 degree or 180 degree plus detector coverage) rotation. It finds applications in situations where bulky, conventional CT systems would interfere with clinical procedures or cannot be integrated with the primary treatments or imaging systems. Cone Beam Computed Tomography explores the past, present, and future state of medical x-ray imaging while explaining how cone beam CT, with its superior spatial resolution and compact configuration, is used in clinical applications and animal research. The book: Supplies a detailed introduction to

cone beam CT, covering basic principles and applications as well as advanced techniques Explores state-of-the-art research and future developments while examining the fundamental limitations of the technology Addresses issues related to implementation and system characteristics, including image quality, artifacts, radiation dose, and perception Reviews the historical development of medical x-ray imaging, from conventional CT techniques to volumetric 3D imaging Discusses the major components of cone beam CT: image acquisition, reconstruction, processing, and display A reference work for scientists, engineers, students, and imaging professionals, Cone Beam Computed Tomography provides a solid understanding of the theory and implementation of this revolutionary technology.

Computed Tomography

Computed tomography of the heart has become a highly accurate diagnostic modality that is attracting increasing attention. This extensively illustrated book aims to assist the reader in integrating cardiac CT into daily clinical practice, while also reviewing its current technical status and applications. Clear guidance is provided on the performance and interpretation of imaging using the latest technology, which offers greater coverage, better spatial resolution, and faster imaging. The specific features of scanners from all four main vendors, including those that have only recently become available, are presented. Among the wide range of applications and issues to be discussed are coronary artery bypass grafts,

stents, plaques, and anomalies, cardiac valves, congenital and acquired heart disease, and radiation exposure. Upcoming clinical uses of cardiac CT, such as plaque imaging and functional assessment, are also explored.

Medical Applications of a Tunable Monochromatic X-ray Source in Cancer Detection, Diagnosis and Therapy

Abdominal Imaging, a title in the Expert Radiology Series, edited by Drs. Dushyant Sahani and Anthony Samir, is a comprehensive reference that encompasses both GI and GU radiology. It provides richly illustrated, advanced guidance to help you overcome the full range of diagnostic, therapeutic, and interventional challenges in abdominal imaging and combines an image-rich, easy-to-use format with the greater depth that experienced practitioners need. Select the best imaging approaches and effectively interpret your findings by comparing them to thousands of images that represent every modality and every type of abdominal imaging. Find detailed, expert guidance on all diagnostic, therapeutic, and interventional aspects of abdominal imaging in one authoritative source, including challenging topics such as Oncologic Assessment of Tumor Response and How to Scan a Difficult Patient. Efficiently locate the information you need with a highly templated, well-organized, at-a-glance organization.

Encyclopedia of Medical Devices and Instrumentation, Capacitive Microsensors for Biomedical Applications - Drug Infusion Systems

This revised and updated second edition – now with two new chapters - is the only book to give a comprehensive overview of computer algorithms for image reconstruction. It covers the fundamentals of computerized tomography, including all the computational and mathematical procedures underlying data collection, image reconstruction and image display. Among the new topics covered are: spiral CT, fully 3D positron emission tomography, the linogram mode of backprojection, and state of the art 3D imaging results. It also includes two new chapters on comparative statistical evaluation of the 2D reconstruction algorithms and alternative approaches to image reconstruction.

Fundamentals of Special Radiographic Procedures - E-Book

Cone Beam Computed Tomography

interfaces on your own, regulatory issues, and how to assure connectivity and access to data." --Book Jacket.

Encyclopedia of Medical Devices and Instrumentation, Hydrocephalus, Tools for Diagnosis and Treatment of - Monoclonal Antibodies

Design of a Dual Modality PET/Cone Beam CT Scanner

The articles in The Encyclopedia of Medical Devices and Instrumentation focus on what is currently useful or is likely to be useful in future medicine. They answer the question, What are the branches of medicine and how does technology assist each of them? Articles focus on the practice of medicine that is assisted by devices, rather than including, for example, the use of drugs to treat disease. The title is the only resource on the market dealing with the subject in encyclopedic detail. * Accessible to practitioners with a broad range of backgrounds from students to researchers and physicians * Articles cover the latest developments such as nanotechnology, fiber optics, and signal processing

Cardiovascular Imaging E-Book

This book covers the complete spectrum of deformable models, its evolution as an imagery field and its use in many biomedical engineering and clinical application

disciplines. The book focuses on the core image processing techniques, theory and biomaterials useful to research and industry. Contributors are all pioneers in the field.

Spectral Computed Tomography

Completely up to date with the latest examination changes, Get Through First FRCR: MCQs for the Physics Module offers a valuable insight into the new Physics module of the First FRCR examination. Over 200 5-part True/False MCQs are presented according to syllabus topics, accurately reflecting the content, style and level of difficulty of the actual examination questions. All answers are supplemented with clear, detailed explanations to develop candidates' understanding and to explain why their answers are right, or wrong. Featuring a wealth of practice MCQs plus one full mock examination, this book has been designed for candidates to assess their knowledge, identify topics that require further study and to build up confidence in preparation for the exam day. Written by Specialty Trainees in Radiology, under the guidance and expertise of Jerry Williams, Consultant Medical Physicist, Get Through First FRCR: MCQs for the Physics Module is the essential revision tool for all First FRCR candidates preparing for the newly revised examination.

LANGE Review: Computed Tomography Examination

Technical Fundamentals of Radiology and CT is intended to cover all issues related to radiology and computed tomography, from the technological point of view, both for understanding the operation of all devices involved and for their maintenance. It is intended for students and a wide range of professionals working in various fields of radiology, those who take images and know little about the workings of the devices, and professionals who install, maintain and solve technological problems of all radiological systems used in health institutions.

Development of an Efficient Detector System for Mega Voltage Photons

Computed tomography of the heart and cardiovascular system continues to show an impressive and tremendously successful development. Technical improvements translate into new applications and enhanced diagnostic accuracy and the new diagnostic opportunities may potentially be beneficial for many individuals with known or suspected cardiovascular dis

Cone-beam Reconstruction Algorithms Development and Validation for C-arm Cone-beam CT

Technical Fundamentals of Radiology and CT

Provides an overview of the evolution of CT, the mathematical and physical aspects of the technology, and the fundamentals of image reconstruction using algorithms. Image display is examined from traditional methods through the most recent advancments. Key performance indices, theories behind the measuremet methodologies, and different measurement phantoms in image quality are discussed. The CT scanner is broken down into components to provide the reader with an understanding of their function, their latest advances, and their impact on the CT system. General descriptions and different categories of artifacts, their causes, and their corrections are considered at length.

Micro-computed Tomography (micro-CT) in Medicine and Engineering

The articles in The Encyclopedia of Medical Devices and Instrumentation focus on what is currently useful or is likely to be useful in future medicine. They answer the question, What are the branches of medicine and how does technology assist each of them? Articles focus on the practice of medicine that is assisted by devices, rather than including, for example, the use of drugs to treat disease. The title is the

only resource on the market dealing with the subject in encyclopedic detail. * Accessible to practitioners with a broad range of backgrounds from students to researchers and physicians * Articles cover the latest developments such as nanotechnology, fiber optics, and signal processing

Cardiac CT

Publisher's Note: Products purchased from 3rd Party sellers are not guaranteed by the Publisher for quality, authenticity, or access to any online entitlements included with the product. Computed Tomography for Technologists: Exam Review, Second Edition, is intended to be used as a companion to Computed Tomography for Technologists: A Comprehensive Text, Second Edition, and as a review of computed tomography on its own. This is an excellent resource for students preparing to take the advanced level certification exam offered by The American Registry of Radiologic Technologists (ARRT).

Objective Performance Evaluation Methods Adapted to Helical and Multislice CT Scanners

Leveraging the organization and focus on exam preparation found in the comprehensive text, this Exam Review will help any student to successfully

complete the ARRT General Radiography and Computed Tomography exams. The book includes a bulleted format review of content, Registry-style questions with answers and rationales, and a mock exam following the ARRT format. The companion website offers an online testing simulation engine.

Abdominal Imaging E-Book

Six years after its first edition, Computed Tomography: Principles, Design, Artifacts, and Recent Advances, Second Edition provides and updated overview of the evolution of CT, the mathematical and physical aspects of the technology, and the fundamentals of image reconstruction algorithms. Based on the advancements over the past six years, the second edition includes new sections on cone beam reconstruction algorithms, nonconventional helical acquisition and reconstruction, new reconstruction approaches, and dual-energy CT. Finally, new to this edition is a set of problems for each chapter, providing opportunities to enhance reader comprehension and practice the application of covered material.

Computed Tomography

Presenting the information a technologist needs to know to perform advanced diagnostic and interventional special procedures, this text provides complete

coverage of topics such as angiography, cardiac catheterization, and vascular interventions. A general overview includes room design, image recording systems, injection devices, contrast media, and catheters. Coverage of specific imaging procedures includes anatomy, indications and contraindications, procedures, contrast media, patient care, equipment, and patient positioning. Discussions of cardiac and vascular interventional procedures help practicing radiographers prepare for the ARRT advanced certification exams. Special tables for equipment tray setup list the items needed for each procedure. Chapter summaries recap the most important information and provide a quick review. Key terms are bolded throughout chapters. Special boxes draw attention to important information in the chapter. List of pharmaceutical resources is included in new appendix. End-of-chapter questions include 10 multiple-choice questions for self-assessment. Chapter objectives focus on the most important information to be learned. Updated art program includes new line drawings, diagnostic images, and equipment photographs. New content includes: Positron emission tomography MR angiography Peripheral angiography and venography Left heart cardiac catheterization Monitoring procedures and equipment during cardiac catheterization Extensive additions to the vascular procedures sections, including: Revascularization Thrombolytic therapy Ablation Embolization Transcatheter biopsy Transjugular intrahepatic portosystemic shunts Inferior vena cava filters Information abut HIPAA

Computed Tomography

This book provides an integrated presentation of mathematics and its application to problems in medical imaging. Key topics include data collection, signal processing and noise analysis. The book should be suitable for self study by a motivated person with a solid mathematical background interested in medical imaging.

Fundamentals of Computerized Tomography

This open access book gives a complete and comprehensive introduction to the fields of medical imaging systems, as designed for a broad range of applications. The authors of the book first explain the foundations of system theory and image processing, before highlighting several modalities in a dedicated chapter. The initial focus is on modalities that are closely related to traditional camera systems such as endoscopy and microscopy. This is followed by more complex image formation processes: magnetic resonance imaging, X-ray projection imaging, computed tomography, X-ray phase-contrast imaging, nuclear imaging, ultrasound, and optical coherence tomography.

Computed Tomography

Computed tomography (CT) is a widely used x-ray scanning technique. In its prominent use as a medical imaging device, CT serves as a workhorse in many clinical settings throughout the world. It provides answers to urgent diagnostic tasks such as oncology tumor staging, acute stroke analysis, or radiation therapy planning. Spectral Computed Tomography provides a concise, practical coverage of this important medical tool. The first chapter considers the main clinical motivations for spectral CT applications. In Chapter 2, the measurement properties of spectral CT systems are described. Chapter 3 provides an overview of the current state of research on spectral CT algorithms. Based on this overview, the technical realization of spectral CT systems is evaluated in Chapter 4. Device approaches such as DSCT, kV switching, and energy-resolving detectors are compared. Finally, Chapter 5 summarizes various algorithms for spectral CT reconstructions and spectral CT image postprocessing, and links these algorithms to clinical use cases

Integrating Device Data Into the Electronic Medical Record

Magill's Medical Guide provides readers with the most authoritative yet accessible reference source in its field. The Guide bridges the gap between professional medical encyclopedias and dictionaries and popular self-help guides.

Medical Imaging Systems

Due to the availability of commercial laboratory systems and the emergence of user facilities at synchrotron radiation sources, studies of microcomputed tomography or microCT have increased exponentially. MicroComputed Technology provides a complete introduction to the technology, describing how to use it effectively and understand its results. The first part of the book focuses on methodology, covering experimental methods, data analysis, and visualization approaches. The second part addresses various microCT applications, including porous solids, microstructural evolution, soft tissue studies, multimode studies, and indirect analyses. The author presents a sufficient amount of fundamental material so that those new to the field can develop a relative understanding of how to design their own microCT studies. One of the first full-length references dedicated to microCT, this book provides an accessible introduction to field, supplemented with application examples and color images.

Deformable Models

EVERYTHING YOU NEED TO ACE THE ARRT® COMPUTED TOMOGRAPHY EXAM (CT) EXAM IN ONE COMPLETE PACKAGE! Written by an experienced program director who knows what it takes to excel, LANGE Review: Computed Tomography

Examination is designed to boost confidence, test-taking skills, and knowledge for anyone preparing for the exam. Bolstered by nearly 500 registry-style questions with detailed answer explanations, this essential guide also includes valuable background material – covering everything from eligibility requirements to test-taking tips. You will also find two comprehensive practice exams within the text and online. It all adds up to the single-best way to increase your chance of success on the CT Exam. · A thorough review of patient care, imaging procedures, and physics and instrumentation distills core concepts on the registry exam · Chapter-ending practice questions assess your knowledge of essential concepts · Two comprehensive practice exams —in the book and online--to improve your confidence · Includes 495 registry-style questions with complete explanations for each answer · Informative introduction includes test taking tips, clinical experience requirements, content specifications, and certification eligibility requirements

Medical Imaging

This volume provides an overview of X-ray technology and the historical development of modern CT systems. The main focus of the book is a detailed derivation of reconstruction algorithms in 2D and modern 3D cone-beam systems. A thorough analysis of CT artifacts and a discussion of practical issues such as dose considerations give further insight into current CT systems. Although written mainly for graduate students, practitioners will also benefit from this book.

Dental Implants - E-Book

Cardiovascular Imaging, a title in the Expert Radiology Series, edited by Drs. Vincent Ho and Gautham P. Reddy, is a comprehensive 2-volume reference that covers the latest advances in this specialty. It provides richly illustrated, advanced guidance to help you overcome the full range of diagnostic, therapeutic, and interventional challenges in cardiovascular imaging and combines an image-rich, easy-to-use format with the greater depth that experienced practitioners need. Online access at www.expertconsult.com allows you to rapidly search for images and quickly locate the answers to any questions. Access the fully searchable text online at www.expertconsult.com, along with downloadable images. View 5000 full-color digital images of both radiographic images and cutting-edge modalities—MR, multislice CT, ultrasonography, and nuclear medicine. Tap into comprehensive coverage that includes diagnostic and therapeutic options, with an emphasis on cost-effective imaging. Consult the experience of a diverse group of experts on cardiovascular imaging from around the globe. Find information quickly and easily thanks to consistent and tightly focused chapters, a full-color design, and key points boxes.

Kalender - Computed Tomography - Fundamentals,System Technology, Image Quality, Applications 4e

Introduction to the Mathematics of Medical Imaging

Conventional computed tomography (CT) techniques employ a narrow array of x-ray detectors and a fan-shaped x-ray beam to rotate around the patient to produce images of thin sections of the patient. Large sections of the body are covered by moving the patient into the rotating x-ray detector and x-ray source gantry. Cone beam CT is an alternative technique using a large area detector and cone-shaped x-ray beam to produce 3D images of a thick section of the body with one full angle (360 degree or 180 degree plus detector coverage) rotation. It finds applications in situations where bulky, conventional CT systems would interfere with clinical procedures or cannot be integrated with the primary treatments or imaging systems. Cone Beam Computed Tomography explores the past, present, and future state of medical x-ray imaging while explaining how cone beam CT, with its superior spatial resolution and compact configuration, is used in clinical applications and animal research. The book: Supplies a detailed introduction to cone beam CT, covering basic principles and applications as well as advanced techniques Explores state-of-the-art research and future developments while examining the fundamental limitations of the technology Addresses issues related to implementation and system characteristics, including image quality, artifacts, radiation dose, and perception Reviews the historical development of medical x-ray imaging, from conventional CT techniques to volumetric 3D imaging Discusses the

major components of cone beam CT: image acquisition, reconstruction, processing, and display A reference work for scientists, engineers, students, and imaging professionals, Cone Beam Computed Tomography provides a solid understanding of the theory and implementation of this revolutionary technology.

Emission Tomography

With more than 1,000 high-quality radiographs and illustrations, this bestselling book visually demonstrates the basic principles of oral and maxillofacial radiology as well as effective clinical application. You'll be able to diagnose and treat patients effectively with the coverage of imaging techniques, including specialized techniques such as MRI and CT, and the comprehensive discussion of the radiographic interpretation of pathology. The book also covers radiation physics, radiation biology, and radiation safety and protection — helping you provide state-of-the-art care! A consistent format makes it easy to follow and comprehend clinical material on each pathologic condition, including a definition, synonyms, clinical features, radiographic features, differential diagnosis, and management/treatment. Updated photos show new equipment and radiographs in the areas of intraoral radiographs, normal radiographic anatomy, panoramic imaging, and advanced imaging. Updated Digital Imaging chapter expands coverage of PSP plates and its use in cephalometric and panoramic imaging, examining the larger latitudes of photostimulable phosphor receptors and their

linear response to the five orders of magnitude of x-ray exposure. Updated Guidelines for Prescribing Dental Radiographs chapter includes the latest ADA guidelines, and also discusses the European Guidelines. Updated information on radiographic manifestations of diseases in the orofacial region includes the latest data on etiology and diagnosis, with an emphasis on advanced imaging. Expert contributors include many authors with worldwide reputations. Cone Beam Computed Tomography chapter covers machines, the imaging process, and typical clinical applications of cone-beam imaging, with examples of examinations made from scans. Evolve website adds more coverage of cases, with more examples of specific issues.

Magill's Medical Guide

For coverage of cutting-edge techniques and procedures, Dental Implants: The Art and Science is your "go to" reference! This edition includes 20 new chapters and coverage of the latest advances and research from leading dental implant experts. Topics range from the business of dental implants and risk management to new treatment techniques such as Teeth In A Day® and Teeth In An HourTM, the All-on-4 concept, Piezoelectric bone surgery, the new NobelActiveTM implant, the use of dental implants in children, and more. Over 1,100 full-color clinical photographs and illustrations bring concepts to life and provide step-by-step visuals for surgical and prosthetic techniques. If you’re looking for a comprehensive, up-to-date

resource you can trust, Dental Implants is the book you need! Over 1,100 full-color clinical photographs and line drawings help to clarify important concepts and provide step-by-step guidance for specific techniques. All aspects of both business and patient care are covered, including risk management, patient selection and master planning, radiographic evaluation, surgical techniques, postoperative care, maintenance, and dental hygiene. Highly-regarded lead author Charles A. Babbush, DDS, MScD, is one of the leading dental implant surgeons in the world and a highly regarded educator, speaker, and author. Expert contributors from all over the world describe the latest advances in implantology and represent the forefront of research.

Computed Tomography

Cone Beam Computed Tomography

The book provides a comprehensive compilation of fundamentals, technical solutions and applications for medical imaging systems. It is intended as a handbook for students in biomedical engineering, for medical physicists, and for engineers working on medical technologies, as well as for lecturers at universities and engineering schools. For qualified personnel at hospitals, and physicians

working with these instruments it serves as a basic source of information. This also applies for service engineers and marketing specialists. The book starts with the representation of the physical basics of image processing, implying some knowledge of Fourier transforms. After that, experienced authors describe technical solutions and applications for imaging systems in medical diagnostics. The applications comprise the fields of X-ray diagnostics, computed tomography, nuclear medical diagnostics, magnetic resonance imaging, sonography, molecular imaging and hybrid systems. Considering the increasing importance of software based solutions, emphasis is also laid on the imaging software platform and hospital information systems.

Imaging Systems for Medical Diagnostics

This book provides a comprehensive and user-friendly description of the theoretical and technical essentials of computed tomography (CT) for a wide readership. It treats in detail all characteristic parameters relevant for image quality and all performance features significant for clinical applications. Readers will thus be informed how to optimally use a CT system depending on their different diagnostic requirements. This includes a detailed discussion about the dose required and about dose measurement as well as how to reduce dose in CT. This book is intended for all those who work daily, regularly or even only occasionally with CT: doctors, technologists, engineers, service technicians and physicists. A glossary

describes all the important technical terms in alphabetical order.

MicroComputed Tomography

This book focuses on applications of micro CT, CBCT and CT in medicine and engineering, comprehensively explaining the basic principles of these techniques in detail, and describing their increasing use in the imaging field. It particularly highlights the scanning procedure, which represents the most crucial step in micro CT, and discusses in detail the reconstruction process and the artifacts related to the scanning processes, as well as the imaging software used in analysis. Written by international experts, the book illustrates the application of micro CT in different areas, such as dentistry, medicine, tissue engineering, aerospace engineering, geology, material engineering, civil engineering and additive manufacturing. Covering different areas of application, the book is of interest not only to specialists in the respective fields, but also to broader audience of professionals working in the fields of imaging and analysis, as well as to students of the different disciplines.