Computed Tomography: Fundamentals, System Technology, Image Quality, Applications

Willi A. Kalender
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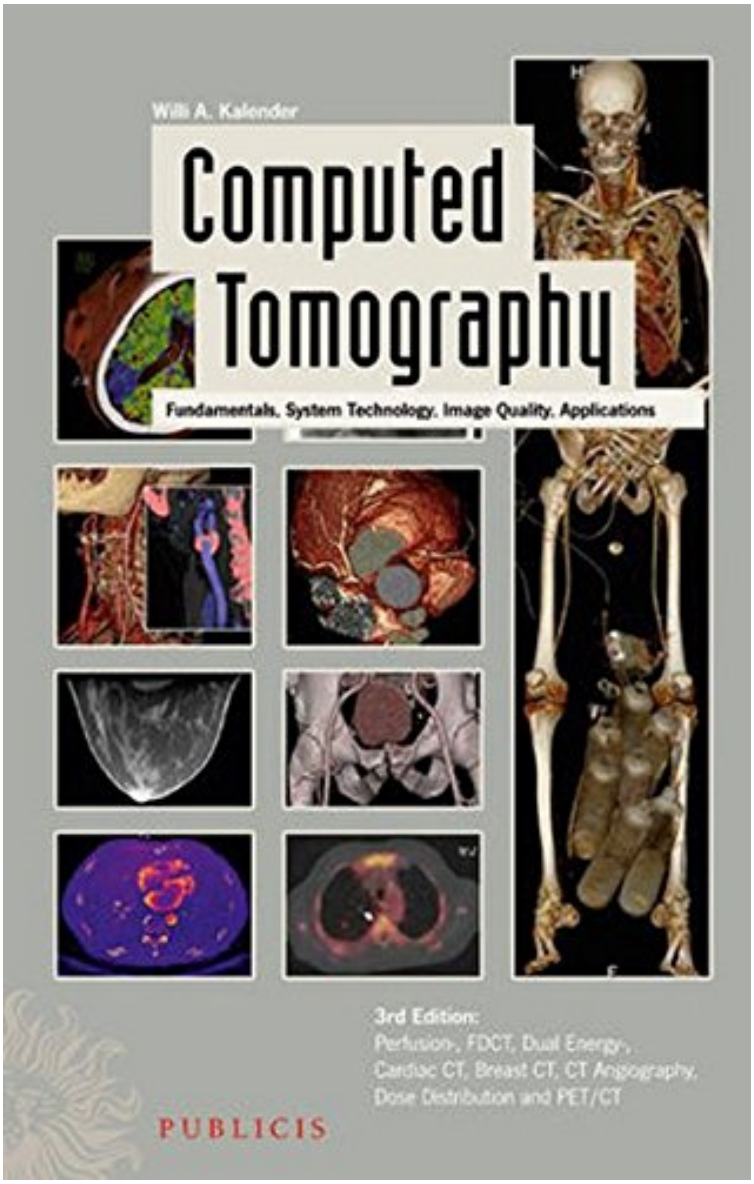

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Willi A. Kalender : Computed Tomography: Fundamentals, System Technology, Image Quality, Applications before purchasing it in order to gage whether or not it would be worth my time, and all praised Computed Tomography: Fundamentals, System Technology, Image Quality, Applications:

59 of 60 people found the following review helpful. Excellent reference for Medical Imaging CourseBy Fairfax JohnI am teaching an Introduction to Medical Imaging Course at the 3rd to 4th year undergraduate level but also including some graduate students at an engineering school. I was looking for an up-to-date review of x-ray computed tomography. This book is it. It surveys the entire topic from historical events to the latest in multi-slice systems. One of the nicest features of the book is the included CD-ROM. It includes all figures used in the book, addition videos of recontruction examples, a case study folder, a multi-slice image (demo) viewer, as well as a demo version of program that calculates patient dose for CT proceedures. These additional tools have made my teaching preparation much easier. I highly recommend this book as a reference for undergraduate and graduate students, medical physicists, and medical students as well as those in the field that need an up-to-date review.1 of 1 people found the following review helpful. Diagnostic Medical PhysicsBy Ishtiaq H. BerchaThis book in its third edition is a classic by the Willi Kalender whose contributions in the field are unmatched. The book is a resource that helps brush up your basic CT physics as well as helps familiarize with the state of the art in the field of CT and CT related disciplines such as PET/CT.I think if the book had detailed sections on analytical aspects of various topics that assisted the medical imaging physics reader develop necessary mathematical skills, that would come as a great help, particularly to the student community in the field. The associated increase in its volume would be nothing but indeed a natural consequence. Likewise adding authors research experience based practical questions and potentially providing solutions, would help the academic medical physicist interested in using this book as a text book as well.This is a great desktop resource for anyone working with CT and probably the most comprehensive book in a manageable and compact format and size, without overwhelming by its sheer volume, otherwise.0 of 0 people found the following review helpful. Nice and helpful book, but you may need some basic knowledge before readingBy Harry GongAs indicated in the title, this book is helpful and nice for anyone who are interested in or working in the field of Computed Tomography. It is a handy book for fast reviewing the important issues in the development of CT scanners. However, you may need to have a little bit basic knowledge before start reading this book. The author uses an concise way to describe important issues within the context of CT technologies. These issues include the basic mechanisms, the development of the state of art CT scanners, the tendency in the future, etc. This book covers a wide range of topics, but it has only 268 pages. So, if you are a beginner in medical imaging or you don't have much engineering related background, it may turn out to be a confused and frustrated reading experiences.

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 is one of the few comprehensive books about CT imaging principles ... Overall, I highly recommend Computed Tomography. Written by a true pioneer in the field, it is a high-quality addition to any CT library." (Radiologic Technology, 1 January 2012) From the Back CoverThe 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 the 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 third edition most of the contents have been updated and latest topics such as dual source CT, dual energy CT, flat detector CT and interventional CT have been added. The enclosed DVD 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 important technical terms in alphabetical order.About the AuthorIn 1995 Willi A. Kalender was appointed full professor and director of the newly established Institute of Medical Physics at the Friedrich-Alexander-University Erlangen-Nrnberg, Germany. His main research interests are in the area of diagnostic imaging, the development and introduction of volumetric spiral CT was a particular focus. He is involved in many international research projects in the fields of Multimodal Imaging and Optimisation of CT and Dosimetry and others. November 2007 Willi Kalender was awarded the European Science Foundation's Latsis Prize which in 2007 was dedicated to the field of medical imaging.