DESCRIPTION

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.

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ABOUT THE AUTHOR

In 1995 Willi A. Kalender was appointed full professor and director of the newly established Institute of Medical Physics at the Friedrich-Alexander-University Erlangen-Nürnberg, 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.

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