Contrast-Enhanced MRI of the Breast: Bildverarbeitung für die Medizin 2019
This book covers the current trends and practices in breast imaging. Topics include mammographic interpretation; breast ultrasound; breast MRI; management of breast cancer.
Revised and updated edition of the first comprehensive reference on a powerful technique in brain imaging. Covers all aspects of a diffusion MRI study from acquisition through analysis to interpretation, and from fundamental theory to cutting-edge developments. New chapters covering connectomics, advanced diffusion acquisition, artifact removal, and applications to the neonatal brain. Provides practical advice on running an experiment. Includes discussion of applications in psychiatry, neurology, neurosurgery, and basic neuroscience. Full color throughout.
Since the first edition of Contrast-Enhanced MRI of the Breast was published in 1990, further progress has been made in the field and interest in magnetic resonance imaging (MRI) as an additional tool in the diagnosis of breast disease has increased. However, further questions have been raised, and in this edition this book has been completely updated in keeping with the state of the art of breast MRI. The topic is again presented in a step-by-step format, with a focus on clinical applications.
This book presents the current trends and practices in breast imaging. Topics include mammographic interpretation; breast ultrasound; breast MRI; management of breast cancer. It is our aim to help the interested reader in choosing the appropriate technique and in finding those applications which promise the greatest benefit for the patient. The particular advantages and limitations of MRI have been pointed out and the currently known capabilities and still existing limitations of other imaging modalities, including transcutaneous biopsy, discussed. Finally, a chapter concerning the use of MRI in the diagnosis of implant failure, a new and fascinating field of research, has been added.
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Recent advances in MR technology permit the application of diffusion MRI outside of the human brain. In this book, the authors present cases drawn from daily clinical practice to illustrate the diffusion sequence of sequences, along with other morphological and functional MRI information, in the work-up of a variety of frequently encountered oncological and non-oncological diseases. Breast, musculoskeletal, whole-body, and other applications are covered in detail, with careful explanation of the pros and cons of diffusion MRI in each circumstance. Quantification and post-processing are discussed, and advice is given on how to acquire the best images, and how to interpret and report on them. This is a practical guide for beginners and experienced radiologists looking for clinical examples and typical findings in the most common diseases offer a rapid overview and orientation Diagnostic flow charts outline the sequence of diagnostic evaluation All standard procedures within the field of interventional radiology are presented in a clinically relevant and readily understandable way, with an abundance of illustrations. This is a textbook, atlas, and reference in one: with more than 2500 images for comparison with the reader’s own findings. This comprehensive and totally up-to-date book provides a superb overview of everything that the radiology specialist of today needs to know. This highly successful book, already beloved by thousands of radiologists and referring physicians, is now available in paperback. This book presents the current trends and practices in breast imaging. Topics include mammographic interpretation; breast ultrasound; breast MRI; management of the symptomatic breast in young, pregnant and lactating women; breast intervention with imaging pathological correlation; the postoperative breast and current and emerging technologies in breast imaging. The idea of using the enormous potential of magnetic resonance imaging (MRI) not only for diagnostic but also for interventional purposes may seem obvious, but it took major efforts by engineers, physicians, and clinicians to come up with dedicated interventional techniques and scanners, and improvements are still ongoing. Since the inception of interventional MRI in the mid-1990s, the numbers of settings, techniques, and clinical applications have increased dramatically. This state of the art book covers all aspects of interventional MRI. The more technical contributions offer an overview of the fundamental ideas and concepts and present the available instrumentation. The richly illustrated clinical chapters, ranging from MRI-guided biopsies to completely MRI-controlled therapies in various body regions, provide detailed information on established and emerging applications and identify future trends and challenges. Diffusion MRI remains the most comprehensive reference for understanding this rapidly evolving and powerful technology and is an essential handbook for designing, analyzing, and interpreting diffusion MR experiments. Diffusion imaging provides a window on human brain anatomy. This non-invasive technique continues to grow in popularity as a way to study brain pathways that could never before be investigated in vivo. This book covers the fundamental theory of diffusion imaging, discusses its most promising applications to basic and clinical neuroscience, and introduces cutting-edge methodological developments that will shape the field in coming years. Written by leading experts in the field, it places the exciting new results emerging from diffusion imaging in the context of classical anatomical techniques to show where diffusion studies might offer unique insights and where potential limitations lie. Fully revised and updated edition of the first comprehensive reference on a powerful technique in brain imaging. Covers all aspects of a diffusion MRI study from acquisition through analysis to interpretation, and from fundamental theory to cutting-edge developments. New chapters covering connectomics, advanced diffusion acquisition, artifact removal, and applications to the neonatal brain. Provides practical advice on running an experiment. Includes discussion of applications in psychiatry, neurology, neurosurgery, and basic neuroscience. Full color throughout.
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MRI technique called Susceptibility Weighted Imaging (SWI), a powerful tool for the diagnosis and treatment of acne, allowing earlier detection of acne stroke hemmorhage and easier detection of microbleeds in acute ischemia. The book is edited by the originators of SWI and features contributions from the top leaders in the science. Presenting an even balance between technical/scientific aspects of the modality and clinical application, this book includes over 100 super high-quality radiographic images and 100 additional graphics and tables. In the latest edition has sich der Workshop "Bildverarbeitung für die Medizin" durch erfolgreiche Veranstaltungen etabliert. Ziel ist auch 2019 wieder die Darstellung aktueller Forschungsergebnisse und die Vertiefung der Gespräche zwischen Wissenschaftlern, Industrie und Anwendern. Die Beiträge dieses Bandes - einige davon in englischer Sprache - umfassen alle Bereiche der medizinischen Bildverarbeitung, insbesondere Bildgebung und -akquisition, Maschinelles Lernen, Bildsegmentierung und Bildanalyse, Visualisierung und Animation, Zeitreihenanalyse, Computerunterstützte Diagnose, Biomechanische Modellierung, Validierung und Qualitätssicherung, Bildverarbeitung in der Telemedizin usw. Since the second edition of Pediatric Chest Imaging was published in 2007, there have been further significant advances in our understanding of chest diseases and continued development of new imaging technology and techniques. The third, revised edition of this highly respected reference publication has been thoroughly updated to reflect this progress. Due attention is paid to the increased prominence of hybrid imaging, and entirely new chapters cover topics such as interventional radiology, lung MRI, functional MRI, diffuse/intestinal lung disease, and cystic fibrosis. As in previous editions, the focus is on technical aspects of modern imaging modalities, their indications in pediatric chest disease, and the diagnostic information that they supply. Pediatric Chest Imaging will be an essential asset for pediatricians, neonatologists, radiologists, and other specialists in the field. The latest edition has sich der Workshop "Bildverarbeitung für die Medizin" durch erfolgreiche Veranstaltungen etabliert. Ziel ist auch 2019 wieder die Darstellung aktueller Forschungsergebnisse und die Vertiefung der Gespräche zwischen Wissenschaftlern, Industrie und Anwendern. Die Beiträge dieses Bandes - einige davon in englischer Sprache - umfassen alle Bereiche der medizinischen Bildverarbeitung, insbesondere Bildgebung und -akquisition, Maschinelles Lernen, Bildsegmentierung und Bildanalyse, Visualisierung und Animation, Zeitreihenanalyse, Computerunterstützte Diagnose, Biomechanische Modellierung, Validierung und Qualitätssicherung, Bildverarbeitung in der Telemedizin usw.