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Altri autori (Persone)	HaackeE. Mark ReichenbachJurgen R
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Nota di contenuto	Susceptibility Weighted Imaging in MRI: Basic Concepts and Clinical Applications; Contents; Preface; Contributors; Part I: Basic Concepts; 1 Introduction to Susceptibility Weighted Imaging; 2 Magnetic Susceptibility; 3 Gradient Echo Imaging; 4 Phase and Its Relationship to Imaging Parameters and Susceptibility; 5 Understanding T* 2-Related Signal Loss; 6 Processing Concepts and SWI Filtered Phase Images; 7 MR Angiography and Venography of the Brain; 8 Brain Anatomy with Phase; Part II: Current Efforts in Clinical Translational Research Using SWI; 9 SWI Venographic Anatomy of the Cerebrum 10 Novel Approaches to Imaging Brain Tumors 11 Traumatic Brain Injury; 12 Imaging Cerebral Microbleeds with SWI; 13 Imaging Ischemic Stroke and Hemorrhage with SWI; 14 Visualizing Deep Medullary Veins with SWI in Newborn and Young Infants; 15 Susceptibility Weighted Imaging in Multiple Sclerosis; 16 Cerebral Venous Diseases and Occult Intracranial Vascular Malformations; 17 Sturge-Weber Syndrome; 18

Visualizing the Vessel Wall Using Susceptibility Weighted Imaging; 19 Imaging Breast Calcification Using SWI; 20 Susceptibility Weighted Imaging at Ultrahigh Magnetic Fields
Part III: Advanced Concepts
21 Improved Contrast in MR Imaging of the Midbrain Using SWI; 22 Measuring Iron Content with Phase; 23 Validation of Phase Iron Detection with Synchrotron X-Ray Fluorescence; 24 Rapid Calculation of Magnetic Field Perturbations from Biological Tissue in Magnetic Resonance Imaging; 25 SWIM: Susceptibility Mapping as a Means to Visualize Veins and Quantify Oxygen Saturation; 26 Effects of Contrast Agents in Susceptibility Weighted Imaging; 27 Oxygen Saturation: Quantification
28 Quantification of Oxygen Saturation of Single Cerebral Veins, the Blood Capillary Network, and Its Dependency on Perfusion
29 Integrating Perfusion Weighted Imaging, MR Angiography, and Susceptibility Weighted Imaging; 30 Functional Susceptibility Weighted Magnetic Resonance Imaging; 31 Complex Thresholding Methods for Eliminating Voxels That Contain Predominantly Noise in Magnetic Resonance Images; 32 Automatic Vein Segmentation and Lesion Detection: from SWI-MIPs to MR Venograms; 33 Rapid Acquisition Methods
34 High-Resolution Venographic BOLD MRI of Animal Brain at 9.4 T: Implications for BOLD fMRI
35 Susceptibility Weighted Imaging in Rodents; 36 Ultrashort TE Imaging: Phase and Frequency Mapping of Susceptibility Effects in Short T2 Tissues of the Musculoskeletal System;
APPENDIX: Seminal Articles Related to the Development of Susceptibility Weighted Imaging; Index; Colour Plates

Sommario/riassunto

MRI Susceptibility Weighted Imaging discusses the promising new MRI technique called Susceptibility Weighted Imaging (SWI), a powerful tool for the diagnosis and treatment of acute stroke, allowing earlier detection of acute stroke hemorrhage 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 addit
