Volume 69
Number 4

MAGNETIC RESONANCE IN MEDICINE

April
2013

CONTENTS

■ SPECTROSCOPY METHODOLOGY

Full Papers

In Vivo Free Induction Decay Based 3D Multivoxel Longitudinal Hadamard Spectroscopic Imaging in the Human Brain at 3 T, Assaf Tal, Gadi Goelman, and Oded Gonen 903
Published online 10 May 2012

Soft Constraints in Nonlinear Spectral Fitting with Regularized Lineshape Deconvolution, Yan Zhang and Jun Shen 912
Published online 22 May 2012

Automated Prescription of Oblique Brain 3D Magnetic Resonance Spectroscopic Imaging, Eugene Ozhinsky, Daniel B. Vigneron, Susan M. Chang, and Sarah J. Nelson 920
Published online 12 June 2012

Proton T_1 Relaxation Times of Metabolites in Human Occipital White and Gray Matter at 7 T, Lijing Xin, Benoît Schaller, Vladimir Mlynarik, Huanxiang Lu, and Rolf Gruetter 931
Published online 30 May 2012

Note

In Vivo High-Resolution Localized ^{1}H MR Spectroscopy in the Awake Rat Brain at 7 T, Su Xu, Yadong Ji, Xi Chen, Yihong Yang, Rao P. Gullapalli, and Radi Masri 937
Published online 8 May 2012

■ PRECLINICAL AND CLINICAL SPECTROSCOPY

Full Paper

Magnetic Resonance Spectroscopy In Vivo of Neurochemicals in a Transgenic Model of Alzheimer's Disease: A Longitudinal Study of Metabolites, Relaxation Time, and Behavioral Analysis in TASTPM and Wild-Type Mice, Duncan Forster, Karen Davies, and Steve Williams 944
Published online 3 July 2012

■ IMAGING METHODOLOGY

Rapid Communications

4D Dark Blood Arterial Wall Magnetic Resonance Imaging: Methodology and Demonstration in the Carotid Arteries, Ioannis Koktzoglou 956
Published online 11 February 2013

Imaging of Endogenous Exchangeable Proton Signals in the Human Brain Using Frequency Labeled Exchange Transfer Imaging, Nirbhay N. Yadav, Craig K. Jones, Jun Hua, Jiadi Xu, and Peter C. M. van Zijl 966
Published online 11 February 2013

Multiband Phase-Constrained Parallel MRI, Martin Blaimer, Morwan Choli, Peter M. Jakob, Mark A. Griswold, and Felix A. Breuer 974
Published online 25 February 2013

Full Papers

Dynamic Hysteresis Between Gradient Echo and Spin Echo Attenuations in Dynamic Susceptibility Contrast Imaging, Chao Xu, Valerij G. Kiselev, Harald E. Möller, and Jochen B. Fiebach 981
Published online 18 May 2012

Uncertainty Estimation in Dynamic Contrast-Enhanced MRI, Anders Garpebring, Patrik Brynolfsson, Jun Yu, Ronnie Wirestam, Adam Johansson, Thomas Asklund, and Mikael Karlsson 992
Published online 19 June 2012

Implementation of Vascular-Space-Occupancy MRI at 7T, Jun Hua, Craig K. Jones, Qin Qin, and Peter C. M. van Zijl 1003
Published online 14 May 2012

Volumetric Measurement of Perfusion and Arterial Transit Delay Using Hadamard Encoded Continuous Arterial Spin Labeling, Weiying Dai, Ajit Shankaranarayanan, and David C. Alsop 1014
Published online 22 May 2012

Ultrasound Echoes as Biometric Navigators, Benjamin M. Schwartz and Nathan J. McDannold 1023
Published online 30 May 2012

Optimization Strategies for Evaluation of Brain Hemodynamic Parameters with qBOLD Technique, Xiaoqi Wang, Alexander L. Sukstanskii, and Dmitriy A. Yablonskiy 1034
Published online 23 May 2012

Enhanced Refocusing of Fat Signals Using Optimized Multipulse Echo Sequences, Ashley M. Stokes, Yesu Feng, Tanya Mitropoulos, and Warren S. Warren 1044
Published online 24 May 2012

CONTENTS

Boosting ^{19}F MRI—SNR Efficient Detection of Paramagnetic Contrast Agents Using Ultrafast Sequences, Florian Schmid, Carsten Höltke, David Parker, and Cornelius Faber 1056
Published online 24 May 2012

Reproducibility Study for Free-Breathing Measurements of Pyruvate Metabolism Using Hyperpolarized ^{13}C in the Heart, Angus Z. Lau, Albert P. Chen, Jennifer Barry, John J. Graham, William Dominguez-Viqueira, Nilesh R. Ghugre, Graham A. Wright, and Charles H. Cunningham .. 1063
Published online 3 July 2012

Double-Wave-Vector Diffusion-Weighted Imaging Reveals Microscopic Diffusion Anisotropy in the Living Human Brain, Marco Lawrenz and Jürgen Finsterbusch 1072
Published online 18 June 2012

Free-Breathing Multiphase Whole-Heart Coronary MR Angiography Using Image-Based Navigators and Three-Dimensional Cones Imaging, Holden H. Wu, Paul T. Gurney, Bob S. Hu, Dwight G. Nishimura, and Michael V. McConnell ... 1083
Published online 30 May 2012

Adaptive Retrospective Correction of Motion Artifacts in Cranial MRI with Multicoil Three-Dimensional Radial Acquisitions, Ashley G. Anderson III, Julia Velikina, Walter Block, Oliver Wieben, and Alexey Samsonov 1094
Published online 3 July 2012

Notes
ΔR_2^* Gadolinium-Diethylenetriaminepentacetic Acid Relaxivity in Venous Blood, Vishal Patil and Glyn Johnson 1104
Published online 10 May 2012

Improved Parallel MR Imaging Using a Coefficient Penalized Regularization for GRAPPA Reconstruction, Wentao Liu, Xin Tang, Yajun Ma, and Jia-Hong Gao 1109
Published online 24 May 2012

■ PRECLINICAL AND CLINICAL IMAGING

Rapid Communication
Diffusion Kurtosis Imaging to Detect Amyloidosis in an APP/PS1 Mouse Model for Alzheimer's Disease, Greetje Vanhoutte, Sandra Pereson, Rafael Delgado y Palacios, Pieter-Jan Guns, Bob Asselbergh, Jelle Veraart, Jan Sijbers, Marleen Verhoye, Christine Van Broeckhoven, and Annemie Van der Linden 1115
Published online 11 March 2013

Full Papers
Irreversible Change in the T_1 Temperature Dependence with Thermal Dose Using the Proton Resonance Frequency-T_1 Technique, Mahamadou Diakite, Allison Payne, Nick Todd, and Dennis L. Parker..... 1122
Published online 10 May 2012

Oscillating and Pulsed Gradient Diffusion Magnetic Resonance Microscopy Over an Extended *b*-value Range: Implications for the Characterization of Tissue Microstructure, S. Portnoy, J. J. Flint, S. J. Blackband, and G. J. Stanisz 1131
Published online 10 May 2012

■ COMPUTER PROCESSING AND MODELING

Full Papers
Optimal Magnetic Susceptibility Matching in 3D, Feng Jia, Rajesh Kumar, and Jan G. Korvink 1146
Published online 10 May 2012

SAR Simulations for High-Field MRI: How Much Detail, Effort, and Accuracy Is Needed?, S. Wolf, D. Diehl, M. Gebhardt, J. Mallow, and O. Speck 1157
Published online 18 May 2012

Group Sparse Reconstruction Using Intensity-Based Clustering, C. Prieto, M. Usman, J. M. Wild, S. Kozerke, P. G. Batchelor, and T. Schaeffter 1169
Published online 30 May 2012

■ HARDWARE AND INSTRUMENTATION

Rapid Communication
Multi-Turn Transmit Coil to Increase B_1 Efficiency in Current Source Amplification, N. Gudino and M. A. Griswold 1180
Published online 11 February 2013

Full Paper
High-Resolution MRI of the Carotid Arteries Using a Leaky Waveguide Transmitter and a High-Density Receive Array at 7 T, W. Koning, J. J. Bluemink, E. A. J. Langenhuizen, A. J. Raaijmakers, A. Andreychenko, C. A. T. van den Berg, P. R. Luijten, J. J. M. Zwanenburg, and D. W. J. Klomp 1186
Published online 3 July 2012

Note
Novel MRI-Compatible Tactile Stimulator for Cortical Mapping of Foot Sole Pressure Stimuli with fMRI, Ying Hao, Brad Manor, Jing Liu, Kai Zhang, Yufeng Chai, Lewis Lipsitz, Chung-Kang Peng, Vera Novak, Xiaoying Wang, Jue Zhang, and Jing Fang 1194
Published online 7 June 2012

■ ERRATUM

Erratum to: Weller DS, Polimeni JR, Grady L, Wald LL, Adalsteinsson E, Goyal VK. Denoising Sparse Images from GRAPPA Using the Nullspace Method. Magn Reson Med 2012;68:1176–1189..... 1200
Published online 4 December 2012

Volume 69, Number 4 was mailed the week of March 25, 2013.