

CONTENTS

■ SPECTROSCOPIC METHODOLOGY

Full Papers

¹H MR Spectroscopic Imaging of the Prostate at 7T Using Spectral-Spatial Pulses, Miriam W. Lagemaat, Vincent Breukels, Eline K. Vos, Adam B. Kerr, Mark J. van Uden, Stephan Orzada, Andreas K. Bitz, Marnix C. Maas, and Tom W.J. Scheenen 933
Published online 6 May 2015

Comparison of the Repeatability of GABA-Edited Magnetic Resonance Spectroscopy with and without Macromolecule Suppression, Mark Mikkelsen, Krish D. Singh, Petroc Sumner, and C. John Evans 946
Published online 29 April 2015

¹³C MRS of Human Brain at 7 Tesla Using [2-¹³C]Glucose Infusion and Low Power Broadband Stochastic Proton Decoupling, Shizhe Li, Li An, Shao Yu, Maria Ferraris Araneta, Christopher S. Johnson, Shumin Wang, and Jun Shen 954
Published online 27 April 2015

Suppression of Skeletal Muscle Signal Using a Crusher Coil: A Human Cardiac ³¹P-MR Spectroscopy Study at 7 Tesla, Benoit Schaller, William T. Clarke, Stefan Neubauer, Matthew D. Robson, and Christopher T. Rodgers 962
Published online 28 April 2015

■ PRECLINICAL AND CLINICAL SPECTROSCOPY

Full Paper

Volumetric Spiral Chemical Shift Imaging of Hyperpolarized [2-¹³C]Pyruvate in a Rat C6 Glioma Model, Jae Mo Park, Sonal Josan, Taichang Jang, Milton Merchant, Ron Watkins, Ralph E. Hurd, Lawrence D. Recht, Dirk Mayer, and Daniel M. Spielman 973
Published online 6 May 2015

■ IMAGING METHODOLOGY

Full Papers

Characterization and Optimization of the Visualization Performance of Continuous Flow Overhauser DNP Hyperpolarized Water MRI: Inversion Recovery Approach, Maxim Terekhov, Jan Krummenacker, Vasyl Denysenkov, Kathrin Gerz, Thomas Prisner, and Laura Maria Schreiber 985
Published online 17 April 2015

Three-Dimensional Coronary Dark-Blood Interleaved with Gray-Blood (cDIG) Magnetic Resonance Imaging at 3 Tesla, Guoxi Xie, Xiaoming Bi, Jiabin Liu, Qi Yang, Yutaka Natsuaki, Antonio Hernandez Conte, Xin Liu, Kuncheng Li, Debiao Li, and Zhaoyang Fan 997
Published online 9 April 2015

Three-Dimensional Quantitative T₁ and T₂ Mapping of the Carotid Artery: Sequence Design and In Vivo Feasibility, Bram F. Coolen, Dirk H.J. Poot, Madieke I. Liem, Loek P. Smits, Shan Gao, Gyula Kotek, Stefan Klein, and Aart J. Nederveen 1008
Published online 28 April 2015

4D Spiral Imaging of Flows in Stenotic Phantoms and Subjects with Aortic Stenosis, MJ Negahdar, Mo Kadbi, Michael Kendrick, Marcus F. Stoddard, and Amir A. Amini 1018
Published online 27 April 2015

Retrospective Correction of Involuntary Microscopic Head Movement Using Highly Accelerated Fat Image Navigators (3D FatNavs) at 7T, Daniel Gallichan, José P. Marques, and Rolf Gruetter 1030
Published online 14 April 2015

MPnRAGE: A Technique to Simultaneously Acquire Hundreds of Differently Contrast MPRAGE Images with Applications to Quantitative T₁ Mapping, Steven Kecskemeti, Alexey Samsonov, Samuel A. Hurley, Douglas C. Dean, Aaron Field, and Andrew L. Alexander 1040
Published online 17 April 2015

Quantitative and Functional Pulsed Arterial Spin Labeling in the Human Brain at 9.4 T, Jonas Bause, Philipp Ehses, Christian Mirkes, G. Shajan, Klaus Scheffler, and Rolf Pohmann 1054
Published online 2 May 2015

Independent Validation of Four-Dimensional Flow MR Velocities and Vortex Ring Volume Using Particle Imaging Velocimetry and Planar Laser-Induced Fluorescence, Johannes Töger, Sebastian Bidhult, Johan Revstedt, Marcus Carlsson, Håkan Arheden, and Einar Heiberg 1064
Published online 2 May 2015

CONTENTS

- Quantification of Cell Size Using Temporal Diffusion Spectroscopy**, Xiaoyu Jiang, Hua Li, Jingping Xie, Ping Zhao, John C. Gore, and Junzhong Xu 1076
Published online 4 April 2015
- Comparison of Phase-Constrained Parallel MRI Approaches: Analogies and Differences**, Martin Blaimer, Marius Heim, Daniel Neumann, Peter M. Jakob, Stephan Kannengiesser, and Felix A. Breuer 1086
Published online 4 April 2015
- Correction and Optimization of a T2-Based Approach to Map Blood Oxygenation in Small Cerebral Veins**, Lisa C. Krishnamurthy, Deng Mao, Kevin S. King, and Hanzhang Lu 1100
Published online 4 April 2015
- Interventional MR Elastography for MRI-Guided Percutaneous Procedures**, Nadège Corbin, Jonathan Vappou, Elodie Breton, Quentin Boehler, Laurent Barbé, Pierre Renaud, and Michel de Mathelin 1110
Published online 4 April 2015
- Fast Iterative Pre-Emphasis Calibration Method Enabling Third-Order Dynamic Shim Updated fMRI**, Ariane Fillmer, Signe Johanna Vannesjo, Matteo Pavan, Milan Scheidegger, Klaas Paul Pruessmann, and Anke Henning 1119
Published online 7 May 2015
- Spectrally Selective Imaging with Wideband Balanced Steady-State Free Precession MRI**, Tolga Çukur 1132
Published online 4 April 2015
- A Novel Approach to Tracer-Kinetic Modeling for (Macromolecular) Dynamic Contrast-Enhanced MRI**, Igor Jacobs, Gustav J. Strijkers, Henk M. Keizer, Henk M. Janssen, Klaas Nicolay, and Matthias C Schabel 1142
Published online 4 April 2015
- Fast Rotary Nonlinear Spatial Acquisition (FRONSAC) Imaging**, Haifeng Wang, Leo K. Tam, R. Todd Constable, and Gigi Galiana 1154
Published online 7 May 2015
- Motion Robust GRAPPA for Echo-Planar Imaging**, Corey A. Baron and Christian Beaulieu 1166
Published online 28 April 2015
- Accelerated Whole-Brain Multi-parameter Mapping Using Blind Compressed Sensing**, Sampada Bhave, Sajan Goud Lingala, Casey P. Johnson, Vincent A. Magnotta, and Mathews Jacob 1175
Published online 8 April 2015
- Influence of Water and Fat Heterogeneity on Fat-Referenced MR Thermometry**, Paul Baron, Roel Deckers, Job G. Bouwman, Chris J. G. Bakker, Martijn de Greef, Max A. Viergever, Chrit T. W. Moonen, and Lambertus W. Bartels 1187
Published online 2 May 2015
- Joint Design of Large-Tip-Angle Parallel RF Pulses and Blipped Gradient Trajectories**, Zhipeng Cao, Manus J. Donahue, Jun Ma, and William A. Grissom 1198
Published online 27 April 2015
- MR Elastography for Evaluating Regeneration of Tissue-Engineered Cartilage in an Ectopic Mouse Model**, Vahid Khalilzad-Sharghi, Zhongji Han, Huihui Xu, and Shadi F. Othman 1209
Published online 27 April 2015
- MAGPI: A Framework for Maximum Likelihood MR Phase Imaging Using Multiple Receive Coils**, Joseph Dagher and Kambiz Nael 1218
Published online 6 May 2015
- Velocity-Selective Magnetization-Prepared Non-Contrast-Enhanced Cerebral MR Angiography at 3 Tesla: Improved Immunity to B0/B1 Inhomogeneity**, Qin Qin, Taehoon Shin, Michael Schär, Hua Guo, Hanwei Chen, and Ye Qiao 1232
Published online 2 May 2015
- Notes**
- Application of Flow Sensitive Gradients for Improved Measures of Metabolism Using Hyperpolarized ^{13}C MRI**, Jeremy W. Gordon, David J. Niles, Erin B. Adamson, Kevin M. Johnson, and Sean B. Fain 1242
Published online 6 May 2015
- Quantification of Turbulence and Velocity in Stenotic Flow Using Spiral Three-Dimensional Phase-Contrast MRI**, Sven Petersson, Petter Dyverfeldt, Andreas Sigfridsson, Jonas Lantz, Carl-Johan Carlhäll, and Tino Ebbers 1249
Published online 4 April 2015
- Accelerated T1 ρ Acquisition for Knee Cartilage Quantification Using Compressed Sensing and Data-Driven Parallel Imaging: A Feasibility Study**, Prachi Pandit, Julien Rivoire, Kevin King, and Xiaojuan Li 1256
Published online 17 April 2015
- Lowering the B_1 Threshold for Improved BEAR B_1 Mapping**, Kalina V. Jordanova, Dwight G. Nishimura, and Adam B. Kerr 1262
Published online 4 April 2015
- Utilization of a Balanced Steady State Free Precession Signal Model for Improved Fat/Water Decomposition**, Leah C. Henze Bancroft, Roberta M. Strigel, Diego Hernando, Kevin M. Johnson, Frederick Kelcz, Richard Kijowski, and Walter F. Block 1269
Published online 6 May 2015

CONTENTS

■ PRECLINICAL AND CLINICAL IMAGING

Full Papers

- Triple-Quantum-Filtered Sodium Imaging at 9.4 Tesla**, Christian Mirkes, G. Shajan, Jonas Bause, Kai Buckenmaier, Jens Hoffmann, and Klaus Scheffler 1278
Published online 4 April 2015

- Sensitivity of Quantitative Myocardial Dynamic Contrast-Enhanced MRI to Saturation Pulse Efficiency, Noise and T_1 Measurement Error: Comparison of Nonlinearity Correction Methods**, David A. Broadbent, John D. Biglands, David P. Ripley, David M. Higgins, John P. Greenwood, Sven Plein, and David L. Buckley 1290
Published online 6 May 2015

- High Temporal Resolution Dynamic MRI and Arterial Input Function for Assessment of GFR in Pediatric Subjects**, Umüt Yoruk, Manojkumar Saranathan, Andreas M. Loening, Brian A. Hargreaves, and Shreyas S. Vasanaawala 1301
Published online 6 May 2015

- Demonstration of Nonlinearity Bias in the Measurement of the Apparent Diffusion Coefficient in Multicenter Trials**, Dariya I. Malyarenko, David Newitt, Lisa J. Wilmes, Alina Tudorica, Karl G. Helmer, Lori R. Arlinghaus, Michael A. Jacobs, Guido Jajamovich, Bachir Taouli, Thomas E. Yankeelov, Wei Huang, and Thomas L. Chenevert 1312
Published online 2 May 2015

Note

- Multistage Three-Dimensional UTE Lung Imaging by Image-Based Self-Gating**, Marta Tibiletti, Jan Paul, Andrea Bianchi, Stefan Wundrak, Wolfgang Rottbauer, Detlef Stiller, and Volker Rasche 1324
Published online 3 May 2015

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Full Paper

- Comparison of Muscle BOLD Responses to Arterial Occlusion at 3 and 7 Tesla**, Theodore F. Towse, Benjamin T. Childs, Shea A. Sabin, Emily C. Bush, Christopher P. Elder, and Bruce M. Damon 1333
Published online 17 April 2015

Note

- The Microstructural Correlates of T_1 in White Matter**, Kevin D. Harkins, Junzhong Xu, Adrienne N. Dula, Ke Li, William M. Valentine, Daniel F. Gochberg, John C. Gore, and Mark D. Does 1341
Published online 28 April 2015

■ COMPUTER PROCESSING AND MODELING

Full Papers

- Accelerated and Motion-Robust In Vivo T_2 Mapping From Radially Undersampled Data Using Bloch-Simulation-Based Iterative Reconstruction**, Noam Ben-Eliezer, Daniel K. Sodickson, Timothy Shepherd, Graham C. Wiggins, and Kai Tobias Block 1346
Published online 17 April 2015

- Distributed Capillary Adiabatic Tissue Homogeneity Model in Parametric Multi-channel Blind AIF Estimation Using DCE-MRI**, Jiří Kratochvíla, Radovan Jiřík, Michal Bartoš, Michal Standara, Zenon Starčuk Jr., and Torfinn Taxt 1355
Published online 13 April 2015

■ HARDWARE AND INSTRUMENTATION

Full Paper

- The Fractionated Dipole Antenna: A New Antenna for Body Imaging at 7 Tesla**, Alexander J.E. Raaijmakers, Michel Italiaander, Ingmar J. Voogt, Peter R. Luijten, Johannes M. Hoogduin, Dennis W.J. Klomp, and Cornelis A.T. van den Berg 1366
Published online 2 May 2015

■ ESR

Full Paper

- Imaging of Reactive Oxygen Species Generated In Vivo**, Hitoshi Togashi, Masaaki Aoyama, and Kazuo Oikawa 1375
Published online 17 April 2015