

CONTENTS

■ IMAGING METHODOLOGY

Letter to the Editor

- Nomenclature for Real-Time Magnetic Resonance Imaging,** Bryson Dietz, B. Gino Fallone, and Keith Wachowicz 1483
Published online 5 September 2018

Response

- Reply to Letter to the Editor: "Nomenclature for Real-Time Magnetic Resonance Imaging,"** Michael Bock, Louisa Traser, Ali Caglar Özen, Michael Burdumy, Bernhard Richter, and Matthias Echtertnach 1485
Published online 19 November 2018

■ SPECTROSCOPIC METHODOLOGY

Full Papers

- Reduction of Lipid Contamination in MR Spectroscopy Imaging Using Signal Space Projection,** Shang-Yueh Tsai, Yi-Ru Lin, Hsin-Yu Lin, and Fa-Hsuan Lin 1486
Published online 11 September 2018

- Lesion Segmentation for MR Spectroscopic Imaging Using the Convolution Difference Method,** Andrew A. Maudsley 1499
Published online 10 October 2018

■ IMAGING METHODOLOGY

Rapid Communication

- 3D Dynamic MRI of the Vocal Tract During Natural Speech,** Yongwan Lim, Yinghua Zhu, Sajjan Goud Lingala, Dani Byrd, Shrikanth Narayanan, and Krishna Shrinivas Nayak 1511
Published online 3 November 2018

Full papers

- Effect of Flow-Encoding Strength on Intravoxel Incoherent Motion in the Liver,** Kévin Moulin, Eric Aliotta, and Daniel B. Ennis 1521
Published online 12 September 2018

- On the Accuracy and Precision of PLANET for Multiparametric MRI Using Phase-Cycled Bssfp Imaging,** Yulia Shcherbakova, Cornelis A. T. van den Berg, Chrit T. W. Moonen, and Lambertus W. Bartels 1534
Published online 10 October 2018

- A Framework for Motion Correction of Background Suppressed Arterial Spin Labeling Perfusion Images Acquired with Simultaneous Multi-Slice EPI,** Yuriko Suzuki, Thomas W. Okell, Michael A. Chappell, and Matthias J.P. van Osch 1553
Published online 12 October 2018

- Frequency-Modulated SSFP with Radial Sampling and Subspace Reconstruction: A Time-Efficient Alternative to Phase-Cycled bSSFP,** Volkert Roeloffs, Sebastian Rosenzweig, H. Christian M. Holme, Martin Uecker, and Jens Frahm 1566
Published online 25 October 2018

- High Resolution In-Vivo DT-CMR Using an Interleaved Variable Density Spiral STEAM Sequence,** Margarita Gorodezky, Pedro F. Ferreira, Sonia Nielles-Vallespin, Peter D. Gatehouse, Dudley J. Pennell, Andrew D. Scott, and David N. Firmin 1580
Published online 8 November 2018

- Visualizing Artery-Specific Blood Flow Patterns Above the Circle of Willis with Vessel-Encoded Arterial Spin Labeling,** Thomas W. Okell, Meritxell Garcia, Michael A. Chappell, James V. Byrne, and Peter Jezzard 1595
Published online 25 October 2018

- Prospective Motion Correction Improves High-Resolution Quantitative Susceptibility Mapping at 7T,** Hendrik Mattern, Alessandro Sciarra, Falk Lüsebrink, Julio Acosta-Cabronero, and Oliver Speck 1605
Published online 9 October 2018

- Wave-LORAKS: Combining Wave Encoding with Structured Low-Rank Matrix Modeling for More Highly Accelerated 3D Imaging,** Tae Hyung Kim, Berkin Bilgic, Daniel Polak, Kawin Setsompop, and Justin P. Haldar 1620
Published online 25 September 2018

CONTENTS

Whole Knee Joint T₁ Values Measured In Vivo at 3T By Combined 3D Ultrashort Echo Time Cones Actual Flip Angle and Variable Flip Angle Methods, Ya-Jun Ma, Wei Zhao, Lidi Wan, Tan Guo, Adam Searleman, Hyungseok Jang, Eric Y. Chang, and Jiang Du 1634
Published online 16 November 2018

Correction of Magnetic Field Inhomogeneity Effects for Fast Quantitative Susceptibility Mapping, Giang-Chau Ngo, Berkin Bilgic, Borjan A. Gagoski, and Bradley P. Sutton..... 1645
Published online 2 November 2018

Potential Acceleration Performance of A 256-Channel Whole-Brain Receive Array at 7T, Arjan D. Hendriks, Peter R. Luijten, Dennis W.J. Klomp, and Natalia Petridou 1659
Published online 26 September 2018

Respiratory- and Cardiac Motion-Corrected Simultaneous Whole-Heart PET and Dual Phase Coronary MR Angiography, Camila Munoz, Radhouene Neji, Karl P. Kunze, Stephan G. Nekolla, Rene M. Botnar, and Claudia Prieto..... 1671
Published online 15 October 2018

A Circular Echo Planar Sequence for Fast Volumetric fMRI, Christoph Rettenmeier, Danilo Maziero, Yongxian Qian, and V. Andrew Stenger..... 1685
Published online 1 October 2018

Multipathway Multi-Echo (MPME) Imaging: All Main MR Parameters Mapped Based on a Single 3D Scan, Cheng-Chieh Cheng, Frank Preiswerk, W. Scott Hoge, Tai-Hsin Kuo, and Bruno Madore 1699
Published online 15 October 2018

Real-Time Triggered Radial Single-Shot Inversion Recovery for Arrhythmia-Insensitive Myocardial T1 Mapping: Motion Phantom Validation and In Vivo Comparison, Daniel Gensler, Tim Salinger, Markus Düring, Kristina Lorenz, Roland Jahns, Tobias Wech, Stefan Frantz, Georg Ertl, Peter M. Jakob, and Peter Nordbeck..... 1714
Published online 12 November 2018

Segmented Radial Cardiac MRI During Arrhythmia Using Retrospective Electrocardiogram and Respiratory Gating, Raghuram Chava, Fabrizio Assis, Daniel Herzka, and Aravindan Koldaivelu..... 1726
Published online 26 October 2018

On the Sensitivity of Quantitative Susceptibility Mapping for Measuring Trabecular Bone Density, Maximilian N. Diefenbach, Jakob Meineke, Stefan Ruschke, Thomas Baum, Alexandra Gersing, and Dimitrios C. Karampinos 1739
Published online 28 September 2018

Simultaneous Perfusion and Permeability Assessments Using Multiband Multi-Echo EPI (M2-EPI) in Brain Tumors, Junjie Wu, Amit M. Saindane, Xiaodong Zhong, and Deqiang Qiu..... 1755
Published online 9 October 2018

Subtractive Non-Contrast-Enhanced MRI of Lower Limb Veins Using Multiple Flow-Dependent Preparation Strategies, Hao Li, Andrew N. Priest, Ilse Patterson, Martin J Graves, and David J Lomas..... 1769
Published online 16 November 2018

Assessment of Flip Angle-TR Equivalence for Standardized Dissolved-Phase Imaging of the Lung with Hyperpolarized 129Xe MRI, Kai Ruppert, Faraz Amzajerdian, Hooman Hamedani, Yi Xin, Luis Loza, Tahmina Achekzai, Ian F. Duncan, Harrilla Profka, Sarmad Siddiqui, Mehrdad Pourfathi, Federico Sertic, Maurizio F. Cereda, Stephen Kadlecsek, and Rahim R. Rizi 1784
Published online 22 October 2018

Accelerated 3D T₂ Mapping with Dictionary-Based Matching for Prostate Imaging, Elisa Roccia, Rohini Vidya Shankar, Radhouene Neji, Gastáío Cruz, Camila Munoz, René Botnar, Vicky Goh, Claudia Prieto, and Isabel Dregely 1795
Published online 28 October 2018

Correcting Image Blur in Spiral, Retraced In/Out (RIO) Acquisitions Using a Maximized Energy Objective, Steven P. Allen, Xue Feng, Samuel W. Fielden, and Craig H. Meyer 1806
Published online 13 November 2018

Eddy Current Nulled Constrained Optimization of Isotropic Diffusion Encoding Gradient Waveforms, Grant Yang and Jennifer A. McNab..... 1818
Published online 10 October 2018

The Effect of Low Resolution and Coverage on the Accuracy of Susceptibility Mapping, Anita Karsa, Shonit Punwani, and Karin Shmueli... 1833
Published online 19 October 2018

CONTENTS

Magnetic Resonance Fingerprinting with Quadratic RF Phase for Measurement of T_2^* Simultaneously with δ , T_1 , and T_2 , Charlie Yi Wang, Simone Coppo, Bhairav Bipin Mehta, Nicole Seiberlich, Xin Yu, and Mark Alan Griswold 1849

Published online 30 October 2018

Realistic 4D MRI Abdominal Phantom for the Evaluation and Comparison of Acquisition and Reconstruction Techniques, Wei-Ching Lo, Yong Chen, Yun Jiang, Jesse Hamilton, Robert Grimm, Mark Griswold, Vikas Gulani, and Nicole Seiberlich..... 1863

Published online 5 October 2018

Simultaneous B_1 and T_1 Mapping Using Spiral Multislice Variable Flip Angle Acquisitions for Whole-Brain Coverage in Less Than One Minute, Rahel Heule, Josef Pfeuffer, Craig H. Meyer, and Oliver Bieri 1876

Published online 12 November 2018

Notes

Optimal Repetition Time Reduction for Single Subject Event-Related Functional Magnetic Resonance Imaging, Amy R. McDowell and David W Carmichael..... 1890

Published online 19 November 2018

Simple Auto-Calibrated Gradient Delay Estimation from Few Spokes Using Radial Intersections (RING), Sebastian Rosenzweig, H. Christian M. Holme, and Martin Uecker 1898

Published online 4 September 2018

True Phase Quantitative Susceptibility Mapping Using Continuous Single-Point Imaging: A Feasibility Study, Hyungseok Jang, Xing Lu, Michael Carl, Adam C. Searleman, Saeed Jerban, Yajun Ma, Annette von Drygalski, Eric Y. Chang, and Jiang Du 1907

Published online 16 November 2018

Functional Lung Imaging with Transient Spoiled Gradient Echo, Grzegorz Bauman, Orso Pusterla, and Oliver Bieri 1915

Published online 22 October 2018

PEC-GRAPPA Reconstruction of Simultaneous Multislice EPI With Slice-Dependent 2D Nyquist Ghost Correction, Yilong Liu, Mengye Lyu, Markus Barth, Zheyuan Yi, Alex T. L. Leong, Fei Chen, Yanqiu Feng, and Ed X. Wu 1924

Published online 12 October 2018

PRECLINICAL AND CLINICAL IMAGING

Full Papers

An Efficient MRI Agent Targeting Extracellular Markers in Prostate Adenocarcinoma, Amerigo Pagoto, Martina Tripepi, Rachele Stefania, Stefania Lanzardo, Dario Livio Longo, Francesca Garelo, Francesco Porpiglia, Matteo Manfredi, Silvio Aime, and Enzo Terreno 1935

Published online 26 October 2018

Imaging of a High Concentration of Iron Labeled Cells with Positive Contrast in a Rat Knee, Sergey Magnitsky, Stephan Pickup, Michael Garwood, and Djaudat Idiyatullin 1947

Published online 21 September 2018

A Functional form for a Representative Individual Arterial Input Function Measured from a Population Using High Temporal Resolution DCE MRI, Leonidas Georgiou, Daniel J. Wilson, Nisha Sharma, Timothy J. Perren, and David L. Buckley 1955

Published online 26 September 2018

Perfusion of The Placenta Assessed Using Arterial Spin Labeling and Ferumoxytol Dynamic Contrast Enhanced Magnetic Resonance Imaging in the Rhesus Macaque, Kai D. Ludwig, Sean B. Fain, Sydney M. Nguyen, Thaddeus G. Golos, Scott B. Reeder, Ian M. Bird, Dinesh M. Shah, Oliver E. Wieben, and Kevin M. Johnson 1964

Published online 25 October 2018

Model-Based Reconstruction Framework for Correction of Signal Pile-Up and Geometric Distortions in Prostate Diffusion MRI, Muhammad Usman, Lebina Kakkur, Alex Kirkham, Simon Arridge, and David Atkinson 1979

Published online 4 November 2018

Notes

CEST MRI of 3-O-Methyl-D-Glucose Uptake and Accumulation in Brain Tumors, Akansha Ashvani Sehgal, Yuguo Li, Bachchu Lal, Nirbhay N. Yadav, Xiang Xu, Jiadi Xu, John Laterra, and Peter C.M. van Zijl 1993

Published online 11 September 2018

Dynamic Diffusion-Weighted Hyperpolarized ^{13}C Imaging Based on a Slice-Selective Double Spin Echo Sequence for Measurements of Cellular Transport, Xucheng Zhu, Jeremy W. Gordon, Robert A. Bok, John Kurhanewicz, and Peder E.Z. Larson..... 2001

Published online 28 October 2018

CONTENTS

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Full Paper

Functional Tractography of White Matter by High Angular Resolution Functional-Correlation Imaging (HARFI), Kurt G. Schilling, Yurui Gao, Muwei Li, Tung-Lin Wu, Justin Blaber, Bennett A. Landman, Adam W. Anderson, Zhaohua Ding, and John C. Gore.....2011

Published online 18 September 2018

■ COMPUTER PROCESSING AND MODELING

Full Papers

Background Field Removal for Susceptibility Mapping of Human Brain with Large Susceptibility Variations, Jinsheng Fang, Lijun Bao, Xu Li, Peter C.M. van Zijl, and Zhong Chen.....2025

Published online 9 October 2018

Isophasor: A Generic and Precise Marker Visualization, Localization, and Quantification Method Based on Phase Saddles in 3D MR Imaging, Job G. Bouwman, Bram A. Custers, Chris J.G. Bakker, Max A. Viergever, and Peter R. Seevinck.....2038

Published online 22 October 2018

T₁ and T₂ Quantification from Standard Turbo Spin Echo Images, Kelly C. McPhee, and Alan H. Wilman 2052

Published online 19 October 2018

Trajectory Optimized NUFFT: Faster Non-Cartesian MRI Reconstruction Through Prior Knowledge and Parallel Architectures, David S. Smith, Saikat Sengupta, Seth A. Smith, and E. Brian Welch.....2064

Published online 17 October 2018

Rapid T₁ Quantification from High Resolution 3D Data with Model-Based Reconstruction, Oliver Maier, Jasper Schoormans, Matthias Schloegl, Gustav J. Strijkers, Andreas Lesch, Thomas Benkert, Tobias Block, Bram F. Coolen, Kristian Bredies, and Rudolf Stollberger2072

Published online 22 October 2018

Semi-Automated Generation of Individual Computational Models of The Human Head and Torso from MR Images, Benjamin Kalloch, Jens Bode, Mikhail Kozlov, André Pampel, Mario Hlawitschka, Bernhard Sehm, Arno Villringer, Harald E. Mäöller, and Pierre-Louis Bazin2090

Published online 19 September 2018

Intersubject Specific Absorption Rate Variability Analysis Through Construction of 23 Realistic Body Models for Prostate Imaging at 7T, Ettore F. Meliàdò, Cornelis A.T. van den Berg, Peter R. Luijten, and Alexander J.E. Raaijmakers.....2106

Published online 9 November 2018

Multi-Modal Synergistic PET and MR Reconstruction Using Mutually Weighted Quadratic Priors, Abolfazl Mehranian, Martin A. Belzunce, Colm J. McGinnity, Aurelien Bustin, Claudia Prieto, Alexander Hammers, and Andrew J. Reader2120

Published online 16 October 2018

A Framework for Fourier-Decomposition Free-Breathing Pulmonary ¹H MRI Ventilation Measurements, Fumin Guo, Dante P.I. Capaldi, David G. McCormack, Aaron Fenster, and Grace Parraga2135

Published online 26 October 2018

Quantitative Analysis of Vascular Properties Derived from Ultrafast DCE-MRI to Discriminate Malignant and Benign Breast Tumors, Chengyue Wu, Federico Pineda, David A. Hormuth II, Gregory S. Karozmar, and Thomas E. Yankeelov2147

Published online 28 October 2018

Notes

Optimization of the Order and Spacing of Sequences in an MRI Exam to Reduce the Maximum Temperature and Thermal Dose, Giuseppe Carluccio, and Christopher M. Collins...2161

Published online 17 October 2018

Redesign of the Laplacian Kernel for Improvements In Conductivity Imaging Using MRI, Jaewook Shin, Jun-Hyeong Kim, and Dong-Hyun Kim.....2167

Published online 9 October 2018

■ HARDWARE AND INSTRUMENTATION

Full Papers

Integrated Radio-Frequency/Wireless Coil Design for Simultaneous MR Image Acquisition and Wireless Communication, Dean Darnell, Jonathan Cuthbertson, Fraser Robb, Allen W. Song, and Trong-Kha Truong2176

Published online 14 September 2018

CONTENTS

Cryogen-Free Dissolution Dynamic Nuclear Polarization Polarizer Operating at 3.35 T, 6.70 T, and 10.1 T, Jan Henrik Ardenkjær-Larsen, Sean Bowen, Jan Raagaard Petersen, Oleksandr Rybalko, Mads Sloth Vinding, Marcus Ullisch, and Niels Chr. Nielsen.....2184
Published online 25 October 2018

■ ERRATUM

Erratum to: Local Sar, Global Sar, and Power-Constrained Large-Flip-Angle Pulses with Optimal Control and Virtual Observation Points (MRM 2017; 77:374–384), Mads S. Vinding, Bastien Guérin, Thomas Vosegaard, and Niels Chr. Nielsen2195
Published online 4 November 2018