

The highlighted papers are those papers recognized by the reviewers as supporting MRM's goal of Reproducible Research.

CONTENTS

■ SPECTROSCOPIC METHODOLOGY

Review

- Current methods for hyperpolarized [1-¹³C]pyruvate MRI human studies,** Peder E. Z. Larson, Jenna M. L. Bernard, James A. Bankson, Nikolaj Bøgh, Robert A. Bok, Albert P. Chen, Charles H. Cunningham, Jeremy W. Gordon, Jan-Bernd Hövener, Christoffer Laustsen, Dirk Mayer, Mary A. McLean, Franz Schilling, James B. Slater, Jean-Luc Vanderheyden, Cornelius von Morze, Daniel B. Vigneron, Duan Xu, and the HP 13C MRI Consensus Group 2204
Published online 27 February 2024

Research Article

- Universal dynamic fitting of magnetic resonance spectroscopy,** William T. Clarke, Clémence Ligneul, Michiel Cottaar, I. Betina Ip, and Saad Jbabdi 2229
Published online 24 January 2024

Technical Note

- A silent echo-planar spectroscopic imaging readout with high spectral bandwidth MRSI using an ultrasonic gradient axis,** Edwin Versteeg, Kyung Min Nam, Dennis W. J. Klomp, Alex A. Bhogal, Jeroen C. W. Siero, and Jannie P. Wijnen 2247
Published online 11 January 2024

■ IMAGING METHODOLOGY

Rapid Communication

- Robust T₂ estimation with balanced steady state free precession,** Oliver Bieri, Claudia Weidensteiner, and Carl Ganter 2257
Published online 27 February 2024

Research Articles

- An augmented hybrid multibaseline and referenceless MR thermometry motion compensation algorithm for MRgHIFU hyperthermia,** Suzanne M. Wong, Arthur Akbulatov, Craig A. Macsemchuk, Andrew Headrick, Phoebe Luo, James M. Drake, and Adam C. Waspe 2266
Published online 05 January 2024

High-resolution myelin-water fraction and quantitative relaxation mapping using 3D ViSTA-MR fingerprinting

- Congyu Liao, Xiaozhi Cao, Siddharth Srinivasan Iyer, Sophie Schauman, Zihan Zhou, Xiaoqian Yan, Quan Chen, Zhitao Li, Nan Wang, Ting Gong, Zhe Wu, Hongjian He, Jianhui Zhong, Yang Yang, Adam Kerr, Kalanit Grill-Spector, and Kawin Setsompop 2278
Published online 29 December 2023

Joint MAPLE: Accelerated joint T₁ and T₂* mapping with scan-specific self-supervised networks

- Amir Heydari, Abbas Ahmadi, Tae Hyung Kim, and Berkin Bilgic 2294
Published online 05 January 2024

Improved test-retest reliability of R₂* and susceptibility quantification using multishot multi-echo 3D EPI

- Yujia Huang, Lin Chen, Xu Li, and Jiae Liu 2310
Published online 29 December 2023

Optimizing background suppression for dual-module velocity-selective arterial spin labeling: Without using additional background-suppression pulses

- Jia Guo 2320
Published online 03 January 2024

Myelin bilayer mapping in the human brain in vivo

- Emily Louise Baadsvik, Markus Weiger, Romain Froidevaux, Christoph Michael Schildknecht, Benjamin Victor Ineichen, and Klaas Paul Pruessmann 2332
Published online 03 January 2024

Accurate actual flip angle imaging (AFI) in the presence of fat

- Alexey A. Samsonov and Vasily L. Yarnykh 2345
Published online 09 January 2024

Bayesian optimization of gradient trajectory for parallel-transmit pulse design

- Minghao Zhang and Christopher T. Rodgers 2358
Published online 09 January 2024

CONTENTS

- Phantom evaluation of electrical conductivity mapping by MRI: Comparison to vector network analyzer measurements and spatial resolution assessment,** Zhongzheng He, Pauline M. Lefebvre, Paul Soullié, Martin Doguet, Khalid Ambarki, Bailiang Chen, and Freddy Odille 2374
Published online 15 January 2024

- Sidebands in CEST MR—How to recognize and avoid them,** Jan-Rüdiger Schüre, Simon Weinmüller, Lukas Kamm, Kai Herz, and Moritz Zaiss 2391
Published online 05 February 2024

- Referenceless Nyquist ghost correction outperforms standard navigator-based method and improves efficiency of in vivo diffusion tensor cardiovascular magnetic resonance,** Zimu Huo, Ke Wen, Yaqing Luo, Radhouene Neji, Karl P. Kunze, Pedro F. Ferreira, Dudley J. Pennell, Andrew D. Scott, and Sonia Nielles-Vallespin 2403
Published online 24 January 2024

- Quantification of the in vivo brain ultrashort- T_2^* component in healthy volunteers,** Nikhil Deveshwar, Jingwen Yao, Misung Han, Nicholas Dwork, Xin Shen, Emil Ljungberg, Eduardo Caverzasi, Peng Cao, Roland Henry, Ari Green, and Peder E. Z. Larson 2417
Published online 30 January 2024

- Novel pore size-controlled, susceptibility matched, 3D-printed MRI phantoms,** Velencia J. Witherspoon, Michal E. Komlosh, Dan Benjaminini, Evren Özarslan, Nickolay Lavrik, and Peter J. Basser 2431
Published online 18 February 2024

- Motion compensated structured low-rank reconstruction for 3D multi-shot EPI,** Xi Chen, Wenchuan Wu, and Mark Chiew 2443
Published online 15 February 2024

- Zero-DeepSub: Zero-shot deep subspace reconstruction for rapid multiparametric quantitative MRI using 3D-QALAS,** Yohan Jun, Yamin Aredeen, Jaejin Cho, Shohei Fujita, Xiaoqing Wang, P. Ellen Grant, Borjan Gagoski, Camilo Jaimes, Michael S. Gee, and Berkin Bilgic 2459
Published online 28 January 2024

- JUST-Net: Jointly unrolled cross-domain optimization based spatio-temporal reconstruction network for accelerated 3D myelin water imaging,** Jae-Hun Lee, Jae-Yoon Kim, Kanghyun Ryu, Mohammed A. Al-masni, Tae Hyung Kim, Dongyeob Han, Hyun Gi Kim, and Dong-Hyun Kim 2483
Published online 11 February 2024

- Technical Notes**
Unsupervised deep learning with convolutional neural networks for static parallel transmit design: A retrospective study, Toygan Kilic, Patrick Liebig, Omer Burak Demirel, Jürgen Herrler, Armin M. Nagel, Kamil Ugurbil, and Mehmet Akçakaya 2498
Published online 21 January 2024

- B_1^+ inhomogeneity mitigation for diffusion weighted MRI at 7T using TR-FOCI pulses,** Shahrokh Abbasi-Rad, Martijn A. Cloos, Jin Jin, Kieran O'Brien, and Markus Barth 2508
Published online 06 February 2024

■ PRECLINICAL AND CLINICAL IMAGING

- Research Articles**
Assessment of blood-brain barrier leakage and brain oxygenation in Connexin-32 knockout mice with systemic neuroinflammation using pulse electron paramagnetic resonance imaging techniques, Boris Epel, Navin Viswakarma, Safa Hameed, Mona M. Freidin, Charles K. Abrams, and Mrignayani Kotetcha 2519
Published online 09 January 2024

- In vivo monitoring of renal tubule volume fraction using dynamic parametric MRI,** Ehsan Tasbih, Thomas Gladitz, Jason M. Millward, João S. Periquito, Ludger Starke, Sonia Waiczies, Kathleen Cantow, Erdmann Seeliger, and Thoralf Niendorf 2532
Published online 06 February 2024

- Cardiac DTI using short-axis PROPELLER: A feasibility study,** Mehdi Sadighi, Danielle Kara, Dingheng Mai, Khoi Nguyen, Shi Chen, Deborah Kwon, and Christopher Nguyen 2546
Published online 20 February 2024

- Technical Notes**
First in-human evaluation of [1- ^{13}C]pyruvate in D_2O for hyperpolarized MRI of the brain: A safety and feasibility study, Kofi Deh, Guannan Zhang, Angela Hijin Park, Charles H. Cunningham, Nadia D. Bragagnolo, Serge Lyashchenko, Shake Ahmed, Avigdor Leftin, Elizabeth Coffee, Hedvig Hricak, Vesselin Miloushev, Marius Mayerhoefer, and Kayvan R. Keshari 2559
Published online 11 January 2024

- Quantitative MRI reveals heterogeneous impacts of treatment on diseased bone marrow in a mouse model of myelofibrosis,** Tanner H. Robison, Winston Lee, Kathryn E. Luker, Kristen Pettit, Moshe Talpaz, Thomas L. Chenevert, Brian D. Ross, and Gary D. Luker 2568
Published online 24 January 2024

CONTENTS

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Research Articles

- Pore size estimation in axon-mimicking microfibers with diffusion-relaxation MRI, Erick J. Canales-Rodríguez, Marco Pizzolato, Feng-Lei Zhou, Muhamed Barakovic, Jean-Philippe Thiran, Derek K. Jones, Geoffrey J. M. Parker, and Tim B. Dyrby.....2579
Published online 08 January 2024

- Quantum dipole interactions and transient hydrogen bond orientation order in cells, cellular membranes and myelin sheath: Implications for MRI signal relaxation, anisotropy, and T₁ magnetic field dependence, Dmitriy A. Yablonskiy and Alexander L. Sukstanskii2597
Published online 19 January 2024

Technical Note

- Dynamic changes in lung water density and volume following supine body positioning, Thomas Goodhart, Peter Seres, Justin Grenier, Christopher Keen, Rob Stobbe, and Richard B. Thompson2612
Published online 21 January 2024

■ COMPUTER PROCESSING AND MODELING

Research Article

- CMRsim—A python package for cardiovascular MR simulations incorporating complex motion and flow, Jonathan Weine, Charles McGrath, Pietro Dirix, Stefano Buoso, and Sebastian Kozerke2621
Published online 17 January 2024

■ HARDWARE AND INSTRUMENTATION

Research Article

- 3T ³¹P/¹H calf muscle coil for ¹H and ³¹P MRI/MRS integrated with NIRS data acquisition, Bei Zhang, Daniel Lowrance, Manoj Kumar Sarma, Miles Bartlett, David Zaha, Michael D. Nelson, and Anke Henning2638
Published online 24 January 2024