

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

CONTENTS

■ SPECTROSCOPIC METHODOLOGY

Research Articles

- Absolute choline tissue concentration mapping for prostate cancer localization and characterization using 3D ^1H MRSI without water-signal suppression, Nassim Tayari, Alan J. Wright, and Arend Heerschap 561
Published online 23 September 2021

- Uncertainty in denoising of MRSI using low-rank methods, William T. Clarke, and Mark Chiew 574
Published online 21 September 2021

Technical Note

- Influence of editing pulse flip angle on J-difference MR spectroscopy, Sofie Tapper, Steve C. N. Hui, Muhammad G. Saleh, Helge J. Zöllner, Georg Oeltzschner, Jamie Near, Brian J. Soher, and Richard A. E. Edden 589
Published online 14 September 2021

■ PRECLINICAL AND CLINICAL SPECTROSCOPY

Research Article

- Spectroscopy-based multi-parametric quantification in subjects with liver iron overload at 1.5T and 3T, Gregory Simchick, Ruiyang Zhao, Gavin Hamilton, Scott B. Reeder, and Diego Hernando 597
Published online 23 September 2021

■ IMAGING METHODOLOGY

Research Articles

- External Dynamic InTerference Estimation and Removal (EDITOR) for low field MRI, Sai Abitha Srinivas, Stephen F. Cauley, Jason P. Stockmann, Charlotte R. Sappo, Christopher E. Vaughn, Lawrence L. Wald, William A. Grissom, and Clarissa Z. Cooley 614
Published online 4 September 2021

- Comparison of prospective and retrospective motion correction in 3D-encoded neuroanatomical MRI, Jakob M. Slipsager, Stefan L. Glimberg, Liselotte Højgaard, Rasmus R. Paulsen, Paul Wighton, M. Dylan Tisdall, Camilo Jaimes, Borjan A. Gagoski, P. Ellen Grant, André van der Kouwe, Oline V. Olesen, and Robert Frost 629
Published online 7 September 2021

- Quantitative evaluation of prospective motion correction in healthy subjects at 7T MRI, Alessandro Sciarra, Hendrik Mattern, Renat Yakupov, Soumick Chatterjee, Daniel Stucht, Steffen Oeltze-Jafra, Frank Godenschweger, and Oliver Speck 646
Published online 31 August 2021

- MULTI-parametric MR imaging with fLEXible design (MULTIPLEX), Yongquan Ye, Jingyuan Lyu, Yichen Hu, Zhongqi Zhang, Jian Xu, and Weiguo Zhang 658
Published online 31 August 2021

- B_1 -gradient-based MRI using frequency-modulated Rabi-encoded echoes, Efraín Torres, Taylor Froelich, Paul Wang, Lance DelaBarre, Michael Mullen, Gregory Adriany, Daniel Cosmo Pizetta, Mateus José Martins, Edson Luiz Géa Vidoto, Alberto Tannús, and Michael Garwood 674
Published online 9 September 2021

- MRI-guided attenuation correction in torso PET/MRI: Assessment of segmentation-, atlas-, and deep learning-based approaches in the presence of outliers, Hossein Arabi, and Habib Zaidi 686
Published online 4 September 2021

- Quantification of balanced SSFP myocardial perfusion imaging at 1.5 T: Impact of the reference image, Sarah McElroy, Karl P. Kunze, Xenios Milidonis, Li Huang, Muhammad Sohaib Nazir, Carl Evans, Filippo Bosio, Nabila Mughal, Pier Giorgio Masci, Radhouene Neji, Reza Razavi, Amedeo Chiribiri, and Sébastien Roujol 702
Published online 23 September 2021

- Pilot tone navigation for respiratory and cardiac motion-resolved free-running 5D flow MRI, Mariana B. L. Falcão, Lorenzo Di Sopra, Liliana Ma, Mario Bacher, Jérôme Yerly, Peter Speier, Tobias Rutz, Milan Prša, Michael Markl, Matthias Stuber, and Christopher W. Roy 718
Published online 5 October 2021

- Magnetization-prepared spoiled gradient-echo snapshot imaging for efficient measurement of R_2 - R_{1p} in knee cartilage, Misung Han, Radhika Tibrewala, Emma Bahroos, Valentina Pedaia, and Sharmila Majumdar 733
Published online 30 September 2021

CONTENTS

Generalized low-rank nonrigid motion-corrected reconstruction for MR fingerprinting, Gastao Cruz, Haikun Qi, Olivier Jaubert, Thomas Kuestner, Torben Schneider, Rene Michael Bothmar, and Claudia Prieto 746
Published online 2 October 2021

Scan-specific artifact reduction in k-space (SPARK) neural networks synergize with physics-based reconstruction to accelerate MRI, Yamin Arefeen, Onur Beker, Jaejin Cho, Heng Yu, Elfar Adalsteinsson, and Berkin Bilgic 764
Published online 2 October 2021

Technical Notes
Rapid simultaneous acquisition of macromolecular tissue volume, susceptibility, and relaxometry maps, Fang Frank Yu, Susie Yi Huang, Ashwin Kumar, Thomas Witzel, Congyu Liao, Tanguy Duval, Julien Cohen-Adad, and Berkin Bilgic 781
Published online 4 September 2021

Generating spiral gradient waveforms with a compact frequency spectrum, James G. Pipe, and Daniel D. Borup 791
Published online 14 September 2021

Workflow for automatic renal perfusion quantification using ASL-MRI and machine learning, Isabell K. Bones, Clemens Bos, Chrit Moonen, Jeroen Hendrikse, and Marijn van Stralen 800
Published online 20 October 2021

Demonstration of fast multi-slice quasi-steady-state chemical exchange saturation transfer (QUASS CEST) human brain imaging at 3T, Hahnsung Kim, Lisa C. Krishnamurthy, and Phillip Zhe Sun 810
Published online 30 September 2021

■ PRECLINICAL AND CLINICAL IMAGING

Research Articles

Clinical translational neuroimaging of the antioxidant effect of N-acetylcysteine on neural microstructure, Sue Y. Yi, Brian R. Barnett, McKenzie J. Poetzel, Nicholas A. Stowe, and John-Paul J. Yu 820
Published online 30 September 2021

Comparative evaluation of polynomial and Lorentzian lineshape-fitted amine CEST imaging in acute ischemic stroke, Jing Cui, Aqeela Afzal, and Zhongliang Zu 837
Published online 30 September 2021

Technical Note
Consistent depiction of the acidic ischemic lesion with APT MRI—Dual RF power evaluation of pH-sensitive image in acute stroke, Phillip Zhe Sun 850
Published online 30 September 2021

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Research Articles
Echo time dependence of biexponential and triexponential intravoxel incoherent motion parameters in the liver, Tobit Föhres, Andreas Julian Rixinger, Martin Loh, Jan Martin, Andreas Wetscherek, Tristan Anselm Kuder, Michael Uder, Bernhard Hensel, and Frederik Bernd Laun 859
Published online 14 August 2021

The use of variable delay multipulse chemical exchange saturation transfer for separately assessing different CEST pools in the human brain at 7T, Bárbara Schmitz-Abecassis, Elena Vinogradov, Jannie P. Wijnen, Thijs van Harten, Evita C. Wiegers, Hans Hoogduin, Matthias J. P. van Osch, and Ece Ercan 872
Published online 14 September 2021

In vivo T₁ and T₂ relaxation time maps of brain tissue, skeletal muscle, and lipid measured in healthy volunteers at 50 mT, Thomas O'Reilly, and Andrew G. Webb 884
Published online 14 September 2021

Technical Note
The number of glomeruli and pyruvate metabolism is not strongly coupled in the healthy rat kidney, Sabrina Kahina Bech, Haiyun Qi, Christian Østergaard Mølgaard, Esben Søvsø Szocska Hansen, Efe Ilicak, Frank G. Zöllner, and Christoffer Laustsen 896
Published online 23 September 2021

■ COMPUTER PROCESSING AND MODELING

Research Articles

Self-supervised IVIM DWI parameter estimation with a physics based forward model, Serge Didenko Vasylechko, Simon K. Warfield, Onur Afacan, and Sila Kurugol 904
Published online 22 October 2021

A data-driven T₂ relaxation analysis approach for myelin water imaging: Spectrum analysis for multiple exponentials via experimental condition oriented simulation (SAME-ECOS), Hanwen Liu, Tigris S. Joseph, Qing-San Xiang, Roger Tam, Piotr Kozłowski, David K. B. Li, Alex L. MacKay, John L. K. Kramer, and Cornelia Laule 915
Published online 7 September 2021

CONTENTS

Training data distribution significantly impacts the estimation of tissue microstructure with machine learning, Noemi G. Gyori, Marco Palombo, Christopher A. Clark, Hui Zhang, and Daniel C. Alexander.....932
Published online 21 September 2021

Recovering SWI-filtered phase data using deep learning, Christian Kames, Jonathan Doucette, Christoph Birkl, and Alexander Rauscher948
Published online 5 October 2021

Characterization of B_1^+ field variation in brain at 3 T using 385 healthy individuals across the lifespan, Thomas MacLennan, Peter Seres, Julia Rickard, Emily Stoltz, Christian Beaulieu, and Alan H. Wilman.....960
Published online 21 September 2021

A data-driven semantic segmentation model for direct cardiac functional analysis based on undersampled radial MR cine series, Tobias Wech, Markus Johannes Ankenbrand, Thorsten Alexander Bley, and Julius Frederik Heidenreich972
Published online 5 October 2021

Automatic segmentation of peripheral arteries and veins in ferumoxytol-enhanced MR angiography, Vahid Ghodrati, Yair Rivenson, Ashley Prosper, Kevin de Haan, Fadil Ali, Takegawa Yoshida, Arash Bedayat, Kim-Lien Nguyen, J. Paul Finn, and Peng Hu.....984
Published online 5 October 2021

Partial Fourier reconstruction of complex MR images using complex-valued convolutional neural networks, Linfang Xiao, Yilong Liu, Zheyuan Yi, Yujiao Zhao, Linshan Xie, Peibei Cao, Alex T. L. Leong, and Ed X. Wu.....999
Published online 5 October 2021

Rapid calculation of static magnetic field perturbation generated by magnetized objects in arbitrary orientations, Seok-Jin Yeo, So-Hee Lee, and Seung-Kyun Lee.....1015
Published online 7 October 2021

Technical Notes
Accurate free-water estimation in white matter from fast diffusion MRI acquisitions using the spherical means technique, Antonio Tristán-Vega, Guillem París, Rodrigo de Luis-García, and Santiago Aja-Fernández.....1028
Published online 31 August 2021

Three-dimensional quantification of circulation using finite-element methods in four-dimensional flow MR data of the thoracic aorta, Julio Sotelo, Malenka M. Bissell, Yixin Jiang, Hernan Mella, Joaquín Mura, and Sergio Uribe1036
Published online 7 September 2021

■ HARDWARE AND INSTRUMENTATION

Research Articles
Control of a wireless sensor using the pulse sequence for prospective motion correction in brain MRI, Adam van Niekerk, Johan Berglund, Tim Sprenger, Ola Norbeck, Enrico Avventi, Henric Rydén, and Stefan Skare1046
Published online 28 August 2021

A silent gradient axis for soundless spatial encoding to enable fast and quiet brain imaging, Edwin Versteeg, Dennis W. J. Klomp, and Jeroen C. W. Siero.....1062
Published online 21 September 2021

A 31-channel integrated “AC/DC” B_0 shim and radiofrequency receive array coil for improved 7T MRI, Jason P. Stockmann, Nicolas S. Arango, Thomas Witzel, Azma Mareyam, Charlotte Sappo, Jiazheng Zhou, Lucas Jenkins, Lincoln Craven-Brightman, Eugene Milshteyn, Mathias Davids, W. Scott Hoge, Monika Sliwiak, Shahin Nasr, Boris Keil, Elfar Adalsteinsson, Bastien Guerin, Jacob K. White, Kawin Setsompop, Jonathan R. Polimeni, and Lawrence L. Wald.....1074
Published online 10 October 2021