

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

CONTENTS

■ SPECTROSCOPIC METHODOLOGY

Research Article

- Regional variations in hyperpolarized ^{129}Xe lung MRI: Insights from CSI-CSSR and CSSR in healthy and irradiated rat models,** Kai Ruppert, Luis Loza, Hooman Hamedani, Mostafa Ismail, Jiawei Chen, Ian F. Duncan, Harrilla Profka, Stephen Kadlecak, and Rahim R. Rizi.....902
Published online 06 November 2024

- Metabolite T_2 relaxation times decrease across the adult lifespan in a large multi-site cohort,** Kathleen E. Hupfeld, Saipavitra Murali-Manohar, Helge J. Zöllner, Yulu Song, Christopher W. Davies-Jenkins, Aaron T. Gudmundson, Dunja Simicic, Gizeaddis Lamesgin Simegn, Emily E. Carter, Steve C. N. Hui, Vivek Yedavalli, Georg Oeltzschnner, Eric C. Porges, and Richard A. E. Edden916
Published online 24 October 2024

■ IMAGING METHODOLOGY

Research Article

- Diffusion-derived intravoxel-incoherent motion anisotropy relates to CSF and blood flow,** Paulien H. M. Voorster, Jacobus F. A. Jansen, Merel M. van der Thiel, Maud van Dinther, Alida A. Postma, Robert J. van Oostenbrugge, Oliver J. Gurney-Champion, Gerhard S. Drenthen, and Walter H. Backes.....930
Published online 06 November 2024

- MR-zero meets FLASH – controlling the transient signal decay in gradient- and RF-spoiled gradient echo sequences,** Simon Weinmüller, Jonathan Endres, Nam Dang, Rudolf Stollberger, and Moritz Zaiss942
Published online 17 November 2024

- Self-gated free-running 5D whole-heart MRI using blind source separation for automated cardiac motion extraction,** Isabel Montón Quesada, Augustin C. Ogier, Masaki Ishida, Masafumi Takafuji, Haruno Ito, Hajime Sakuma, Ludovica Romanin, Christopher W. Roy, Milan Prša, Jonas Richiardi, Jérôme Yerly, Matthias Stuber, and Ruud B. van Heeswijk961
Published online 09 October 2024

- High on sparsity: Interbin compensation of cardiac motion for improved assessment of left-ventricular function using 5D whole-heart MRI,** Jérôme Yerly, Christopher W. Roy, Bastien Milani, Katerina Eyre, Mozedin Javad Raifee, and Matthias Stuber975
Published online 09 October 2024

- Single-shot echo planar time-resolved imaging for multi-echo functional MRI and distortion-free diffusion imaging,** Zijing Dong, Lawrence L. Wald, Jonathan R. Polimeni, and Fuyixue Wang993
Published online 20 October 2024

- Age-specific optimization of the T_2 -weighted MRI contrast in infant and toddler brain,** Jiani Wu, Fenjie Qin, Fengyu Tian, Haotian Li, Xingwang Yong, Tingting Liu, Hongxi Zhang, and Dan Wu1014
Published online 21 October 2024

- Whole-brain T_2 mapping with radial sampling and retrospective motion correction at 3T,** Nadège Corbin, Aurelien J. Trotter, Serge Anandra, Emile Kadalie, Laurence Dallet, Sylvain Miraux, and Emeline J. Ribot1026
Published online 04 October 2024

- Bilateral orthogonality generative acquisitions method for homogeneous T^* images using parallel transmission at 7 T,** Çelik Boğa and Anke Henning1043
Published online 07 October 2024

- Chemical shift-encoded multishot EPI for navigator-free prostate DWI,** Yiming Dong, David Atkinson, Kirsten Koolstra, Matthias J. P. van Osch, and Peter Börnert1059
Published online 14 October 2024

- First in-vivo magic angle directional imaging using dedicated low-field MRI,** Mihailo Ristic, Karyn E. Chappell, Harry Lanz, John McGinley, Chinmay Gupte, and Dimitris Amiras1077
Published online 20 October 2024

CONTENTS

- Parallel transmit hybrid pulse design for controlled on-resonance magnetization transfer in R_1 mapping at 7 T,** David Leitão, Raphael Tomi Tricot, Philippa Bridgen, Pierluigi Di Cio, Patrick Liebig, Rene Gumbrecht, Dieter Ritter, Sharon Giles, Joseph V. Hajnal, and Shaihan J. Malik 1090
Published online 14 October 2024

- Phase contrast MRI with minimized background phase errors,** Michael Loecher and Daniel B. Ennis 1104
Published online 14 October 2024

- MR electrical properties mapping using vision transformers and canny edge detectors,** Ilias I. Giannakopoulos, Giuseppe Carluccio, Mahesh B. Keerthivasan, Gregor Koerzdoerfer, Karthik Lakshmanan, Hector L. De Moura, José E. Cruz Serrallés, and Riccardo Lattanzi 1117
Published online 16 October 2024

- Accelerated cardiac cine with spatio-coil regularized deep learning reconstruction,** Omer Burak Demirel, Fahime Ghanbari, Manuel Antonio Morales, Patrick Pierce, Scott Johnson, Jennifer Rodriguez, Jordan Amy Street, and Reza Nezafat 1132
Published online 21 October 2024

- Low-rank iterative infilling for zero echo-time (ZTE) imaging,** Zimu Huo, José de Arcos, Florian Wiesinger, Joshua D. Kaggie, and Martin J. Graves 1149
Published online 04 November 2024

- A 3D fast MR elastography sequence with interleaved multislab acquisition and Hadamard encoding,** Runke Wang, Yu Chen, Fuhua Yan, Guang-Zhong Yang, and Yuan Feng 1163
Published online 20 October 2024

- Sodium MRI of the skin using a surface coil to investigate and reduce signal loss and bias,** Jingxuan Zhu, Christian Beaulieu, Karim Damji, and Rob Stobbe 1176
Published online 27 October 2024

- Zero-echo-time sequences in highly inhomogeneous fields,** Jose Borreguero, Fernando Galve, José M. Algarín, and Joseba Alonso 1190
Published online 21 October 2024

- Large improvement in RF magnetic fields and imaging SNR with whole-head high-permittivity slurry helmet for human-brain MRI applications at 7 T,** Soo Han Soon, Xin Li, Matt Waks, Xiao-Hong Zhu, Hannes M. Wiesner, Navid P. Gandji, Qing X. Yang, Michael T. Lanagan, and Wei Chen 1205
Published online 24 October 2024

- ^{129}Xe Image Processing Pipeline: An open-source, graphical user interface application for the analysis of hyperpolarized ^{129}Xe MRI,** Abdullah S. Bdaiwi, Matthew M. Willmering, Joseph W. Plummer, Riaz Hussain, David J. Roach, Juan Parra-Robles, Peter J. Niedbalski, Jason C. Woods, Laura L. Walkup, and Zackary I. Cleveland 1220
Published online 31 October 2024

- Parallel-transmission spatial spectral pulse design with local specific absorption rate control: Demonstration for robust uniform water-selective excitation in the human brain at 7 T,** Xin Shao, Zhe Zhang, Xiaodong Ma, Fan Liu, Hua Guo, Kamil Ugurbil, and Xiaoping Wu 1238
Published online 31 October 2024

- Giving the prostate the boost it needs: Spiral diffusion MRI using a high-performance whole-body gradient system for high *b*-values at short echo times,** Malwina Molendowska, Lars Mueller, Fabrizio Fasano, Derek K. Jones, Chantal M. W. Tax, and Maria Engel 1256
Published online 04 November 2024

- Mitochondrial oxidative phosphorylation capacity in skeletal muscle measured by ultrafast Z-spectroscopy (UFZ) MRI at 3T,** Licheng Ju, Michael Schär, Kexin Wang, Anna Li, Yihan Wu, T. Jake Samuel, Sandeep Ganji, Peter C. M. van Zijl, Nirbhay N. Yadav, Robert G. Weiss, and Jiadi Xu 1273
Published online 20 October 2024

- Two-parametric prescan calibration of gradient-induced sampling errors for rosette MRI,** Peter Latta, Radovan Jiřík, Jiří Vitouš, Ondřej Macíček, Lubomír Vojtíšek, Ivan Rektor, Michal Standara, Jan Křístek, and Zenon Starčuk Jr. 1285
Published online 22 October 2024

CONTENTS

Technical Note

- High dynamic range B_1^+ mapping for the evaluation of parallel transmit arrays,**
Jörg Felder, Markus Zimmermann,
and N. Jon Shah..... 1298
Published online 27 October 2024

- Repeatability of diffusion kurtosis tensor parameters in muscles of the lower legs,**
Ethan Mathew, Richard Dorch, Bruce Damon,
Sudarshan Raghunathan, and C. Chad Quarles..... 1306
Published online 11 November 2024

■ BIOPHYSICS AND BASIC BIOMEDICAL RESEARCH

Research Article

- Layer-specific BOLD effects in gradient and spin-echo acquisitions in somatosensory cortex,** Zhangyan Yang, Mishra Arabinda,
Feng Wang, Li Min Chen, and John C. Gore..... 1314
Published online 07 October 2024

- Revealing membrane integrity and cell size from diffusion kurtosis time dependence,**
Hong-Hsi Lee, Dmitry S. Novikov, Els Fieremans,
and Susie Y. Huang 1329
Published online 29 October 2024

■ COMPUTER PROCESSING AND MODELING

Research Article

- Improved liver fat and R_2^* quantification at 0.55 T using locally low-rank denoising,**
Shu-Fu Shih, Bilal Tasdelen, Ecrin Yagiz,
Zhaohuan Zhang, Xiaodong Zhong,
Sophia X. Cui, Krishna S. Nayak,
and Holden H. Wu 1348
Published online 09 October 2024

Machine learning-based estimation of respiratory fluctuations in a healthy adult population using resting state BOLD fMRI and head motion parameters,

- Abdoljalil Addeh, Fernando Vega,
Amin Morshedi, Rebecca J. Williams,
G. Bruce Pike, and M. Ethan MacDonald 1365
Published online 31 October 2024

- Automatic segmentation and diameter measurement of deep medullary veins,**
Yichen Zhou, Bingbing Zhao, Julia Moore,
and Xiaopeng Zong 1380
Published online 31 October 2024

- Toward quantitative CEST imaging of glutamate in the mouse brain using a multi-pool exchange model calibrated by $^1\text{H}-\text{MRS}$,** Cécile Maguin, Eloïse Mougel,
Julien Valette, and Julien Flament 1394
Published online 24 October 2024

■ HARDWARE AND INSTRUMENTATION

Research Article

- A deep brain stimulation-conditioned RF coil for 3T MRI,** Nicolas Kutsch, Mirsad Mahmutovic, Bhumi Bhusal, Jasmine Vu, Chaimaa Chemlali, Sam-Luca J. D. Hansen, Markus W. May, Susanne Knake, Laleh Golestanirad, and Boris Keil 1411
Published online 24 October 2024