

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

CONTENTS

■ SPECTROSCOPIC METHODOLOGY

Research Articles

Diffusion-weighted SPECIAL improves the detection of J-coupled metabolites at ultrahigh magnetic field, Jessie Mosso, Dunja Simicic, Bernard Lanz, Rolf Gruetter, and Cristina Cudalbu..... 4
Published online 28 September 2023

Prospective motion correction for cervical spinal cord MRS, Isaac M. Adanyeguh, Pierre-Gilles Henry, and Dinesh K. Deelchand..... 19
Published online 29 September 2023

Technical Note

Improving magnetic resonance spectroscopy in the brainstem periaqueductal gray using spectral registration, Laura Sirucek, Niklaus Zoelch, and Petra Schweinhardt..... 28
Published online 06 October 2023

■ PRECLINICAL AND CLINICAL SPECTROSCOPY

Research Article

Deuterium metabolic imaging for 3D mapping of glucose metabolism in humans with central nervous system lesions at 3T, Philip M. Adamson, Keshav Datta, Ron Watkins, Lawrence D. Recht, Ralph E. Hurd, and Daniel M. Spielman..... 39
Published online 05 October 2023

■ IMAGING METHODOLOGY

Rapid Communication

Creatine mapping of the brain at 3T by CEST MRI, Kexin Wang, Jianpan Huang, Licheng Ju, Su Xu, Rao P. Gullapalli, Yajie Liang, Joshua Rogers, Yuguo Li, Peter C. M. van Zijl, Robert G. Weiss, Kannie W. Y. Chan, and Jiadi Xu 51
Published online 09 October 2023

Research Articles

Optimization of 3D dynamic speech MRI: Poisson-disc undersampling and locally higher-rank reconstruction through partial separability model with regional optimized temporal basis, Riwei Jin, Yudu Li, Ryan K. Shosted, Fangxu Xing, Imani Gilbert, Jamie L. Perry, Jonghye Woo, Zhi-Pei Liang, and Bradley P. Sutton..... 61
Published online 07 September 2023

Whole-liver flip-angle shimming at 7 T using parallel-transmit k_x -point pulses and Fourier phase-encoded DREAM B_1^+ mapping, Bobby A. Runderkamp, Thomas Roos, Wietske van der Zwaag, Gustav J. Strijkers, Matthan W. A. Caan, and Aart J. Nederveen 75
Published online 05 October 2023

High resolution simulation and measurement demonstrate oscillatory spatiotemporal B_0 fluctuations across the human cardiac cycle, Yun Shang, Sebastian Theilenberg, Martin Gajdošík, Laura M. Schreiber, and Christoph Juchem 91
Published online 20 August 2023

Learning ADC maps from accelerated radial k-space diffusion-weighted MRI in mice using a deep CNN-transformer model, Yuemeng Li, Miguel Romanello Joaquim, Stephen Pickup, Hee Kwon Song, Rong Zhou, and Yong Fan 105
Published online 20 August 2023

Improved reproducibility for myocardial ASL: Impact of physiological and acquisition parameters, Maša Božić-Iven, Stanislas Rapacchi, Qian Tao, Iain Pierce, George Thornton, Christian Nitsche, Thomas A. Treibel, Lothar R. Schad, and Sebastian Weingärtner 118
Published online 05 September 2023

Adiabatic null passage for on-resonance magnetization transfer preparation, Shahrokh Abbasi-Rad and David G. Norris..... 133
Published online 20 August 2023

Alternating Look-Locker for quantitative T_1 , $T_{1\rho}$ and B_1 3D MRI mapping, Lin Wu, Chris Carchi, Shalom Michaeli, Silvia Mangia, and Djaudat Idiyatullin..... 149
Published online 15 August 2023

Improved gray-white matter contrast using magnetization prepared fast imaging with steady-state free precession (MP-FISP) brain imaging at 0.55 T, Jessica Schäper, Grzegorz Bauman, and Oliver Bieri..... 162
Published online 20 August 2023

CONTENTS

Self-gated cine phase-contrast balanced SSFP flow quantification at 0.55 T,

Charles McGrath, Oliver Bieri, Sebastian Kozerke, and Grzegorz Bauman 174
Published online 05 September 2023

Head-and-neck multichannel B1⁺ mapping and RF shimming of the carotid arteries using a 7T parallel-transmit head coil,

Matthijs H. S. de Buck, James L. Kent, Peter Jezzard, and Aaron T. Hess 190
Published online 05 October 2023

Structured low-rank reconstruction for navigator-free water/fat separated multi-shot diffusion-weighted EPI,

Yiming Dong, Kirsten Koolstra, Ziyu Li, Malte Riedel, Matthias J. P. van Osch, and Peter Börner 205
Published online 27 September 2023

Rapid whole brain 3D T₂ mapping respiratory-resolved Double-Echo Steady State (DESS) sequence with improved repeatability,

Emile Kadalie, Aurélien J. Trotier, Nadège Corbin, Sylvain Miraux, and Emeline J. Ribot 221
Published online 05 October 2023

A characterization of cardiac-induced noise in R₂^{*} maps of the brain,

Quentin Raynaud, Giulia Di Domenicantonio, Jérôme Yerly, Thomas Dardano, Ruud B. van Heeswijk, and Antoine Lutti 237
Published online 14 September 2023

Accelerated multislice MRI with patterned excitation,

Jacco A. de Zwart, Peter van Gelderen, Yicun Wang, and Jeff H. Duyn 252
Published online 28 September 2023

HyperSLICE: HyperBand optimized spiral for low-latency interactive cardiac examination,

Olivier Jaubert, Javier Montalt-Tordera, Daniel Knight, Simon Arridge, Jennifer Steeden, and Vivek Muthurangu 266
Published online 06 October 2023

FD-Net: An unsupervised deep forward-distortion model for susceptibility artifact correction in EPI,

Abdallah Zaid Alkilani, Tolga Çukur, and Emine Ulku Saritas 280
Published online 09 October 2023

Effectiveness of visual biofeedback-guided respiratory-correlated 4D-MRI for radiotherapy guidance on the MR-linac,

Katrinus Keijne-mans, Pim T. S. Borman, Bas W. Raaymakers, and Martin F. Fast 297
Published online 06 October 2023

Rapid MR elastography of the liver for subsecond stiffness sampling,

Matthias Anders, Tom Meyer, Carsten Warmuth, Josef Pfeuffer, Heiko Tzschätzsch, Helge Herthum, Mehrgan Shahryari, Katja Degenhardt, Oliver Wieben, Sebastian Schmitter, Jeanette Schulz-Menger, Tobias Schaeffter, Juergen Braun, and Ingolf Sack 312
Published online 14 September 2023

Technical Notes

2D sodium MRI of the human calf using half-sinc excitation pulses and compressed sensing,

Rebecca R. Baker, Vivek Muthurangu, Marilena Rega, Javier Montalt-Tordera, Samuel Rot, Bhavana S. Solanky, Claudia A. M. Gandini Wheeler-Kingshott, Stephen B. Walsh, and Jennifer A. Steeden 325
Published online 05 October 2023

Speech production real-time MRI at 0.55 T,

Yongwan Lim, Prakash Kumar, and Krishna S. Nayak 337
Published online 05 October 2023

mcLARO: Multi-contrast learned acquisition and reconstruction optimization for simultaneous quantitative

multi-parametric mapping, Jinwei Zhang, Thanh D. Nguyen, Eddy Solomon, Chao Li, Qihao Zhang, Jiahao Li, Hang Zhang, Pascal Spincemaille, and Yi Wang 344
Published online 01 September 2023

PRECLINICAL AND CLINICAL IMAGING

Research Articles

Dual contrast CEST MRI for pH-weighted imaging in stroke,

Julius Chung, Dandan Sun, T. Kevin Hitchens, Michel Modo, Andriy Bandos, Joseph Mettenburg, Ping Wang, and Tao Jin 357
Published online 05 October 2023

T1 mapping of myocardium in rats using self-gated golden-angle acquisition,

Jiří Vitouš, Radovan Jiřík, Tibor Stračina, Michal Hendrych, Jaroslav Nádeníček, Ondřej Macíček, Ye Tian, Lucie Krátká, Eva Dražanová, Marie Nováková, Petr Babula, Roman Panovský, Edward DiBella, and Zenon Starčuk 368
Published online 09 October 2023

In vivo measurement of T₁ in the vitreous humor of patients with ischemic retinal disease,

Andrew R. H. Simpson, Edward H. Hughes, Lisa Mullen, and Nicholas G. Dowell 381
Published online 06 October 2023

CONTENTS

Technical Note

Real-time automatic image-based slice tracking of gadolinium-filled balloon wedge catheter during MR-guided cardiac catheterization: A proof-of-concept study,

Rohini Vidya Shankar, Li Huang, Radhouene Neji, Grzegorz Kowalik, Alexander Paul Neofytou, Ronald Mooiweer, Tracy Moon, Nina Mellor, Reza Razavi, Kuberan Pushparajah, and Sébastien Roujol388
Published online 07 September 2023

COMPUTER PROCESSING AND MODELING

Research Article

Orthopedic implants affect the electric field induced by switching gradients in MRI,

Luca Zilberti, Alessandro Arduino, Riccardo Torchio, Umberto Zanovello, Fabio Baruffaldi, Hector Sanchez-Lopez, Paolo Bettini, Piergiorgio Alotto, Mario Chiampi, and Oriano Bottauscio398
Published online 29 September 2023

ESR

Research Article

Evaluation of a deuterated triarylmethyl spin probe for in vivo R_2^* -based EPR oximetric imaging with enhanced dynamic range,

Shun Kishimoto, Nallathamby Devasahayam, Gadiseti V. R. Chandramouli, Ramachandran Murugesan, Yasunori Otowa, Kota Yamashita, Kazutoshi Yamamoto, Jeffrey R. Brender, and Murali C. Krishna 413
Published online 07 September 2023