

Publikationen 2015

Gnahm C, Nagel AM: Anatomically weighted second-order total variation reconstruction of (23)Na MRI using prior information from (1)H MRI. *Neuroimage* 105, 452-61, 2015.

Roeloffs V, Meyer C, Bachert P, Zaiss M: Towards quantification of pulsed spinlock and CEST at clinical MR scanners: an analytical interleaved saturation-relaxation (ISAR) approach. *NMR in Biomedicine* 28 (1), 40-53, 2015.

Abrahamsson C, Nordstierna L, Nordin M, Dvinskikh SV, Nyden M: Magnetic orientation of nontronite clay in aqueous dispersions and its effect on water diffusion. *Journal of Colloid and Interface Science* 437, 205-210, 2015.

Li H, Zu Z, Zaiss M, Khan SI, Singer R, Gochberg DF, Bachert P, Gore JC, Xu J: Imaging of amide proton transfer and nuclear Overhauser enhancement in ischemic stroke with corrections for competing effects. *NMR in Biomedicine* 28 (2), 200-209, 2015.

Zaiss M, Zu Z, Xu J, Schuenke P, Gochberg DF, Gore JC, Ladd ME, Bachert P: A combined analytical solution for chemical exchange saturation transfer and semi-solid magnetization transfer. *NMR in Biomedicine* 28 (2), 217-230, 2015.

Thurling M, Kahl F, Maderwald S, Stefanescu RM, Schlamann M, Boele HJ, De Zeeuw CI, Diedrichsen J, Ladd ME, Koekkoek SK, Timmann D: Cerebellar cortex and cerebellar nuclei are concomitantly activated during eyeblink conditioning: a 7T fMRI study in humans. *Journal of Neuroscience* 35 (3), 1228-1239, 2015.

Lagemaat MW, Maas MC, Vos EK, Bitz AK, Orzada S, Weiland E, van Uden MJ, Kobus T, Heerschap A, Scheenen TW: 31 P MR spectroscopic imaging of the human prostate at 7 T: T1 relaxation times, Nuclear Overhauser Effect, and spectral characterization. *Magnetic Resonance in Medicine* 73 (3), 909-920, 2015.

Gensler D, Moerchel P, Fidler F, Ritter O, Quick HH, Ladd ME, Bauer WR, Ertl G, Jakob PM, Nordbeck P: Myocardial T1: Quantification by Using an ECG-triggered Radial Single-Shot Inversion-Recovery MR Imaging Sequence. *Radiology* 274 (3), 879-887, 2015.

Tchernin C, Majer CL, Meyer S, Sarli E, Eckert D, Bartelmann M: Reconstructing the projected gravitational potential of Abell 1689 from X-ray measurements. *Astronomy and Astrophysics* 574, Art. Nr.: A122, 2015.

Nordin M: Commutator expansions in NMR diffusometry. *Microporous and Mesoporous Materials* 205, 31-35, 2015.

Noebauer-Huhmann IM, Szomolanyi P, Kronnerwetter C, Widhalm G, Weber M, Nemeš S, Juras V, Ladd ME, Prayer D, Trattnig S: Brain tumours at 7T MRI compared to 3T-contrast effect after half and full standard contrast agent dose: Initial results. *European Radiology* 25 (1), 106-112, 2015.

Johst S, Maderwald S, Fischer A, Quick HH, Ladd ME, Orzada S: Investigation of the Saturation Pulse Artifact in Non-Enhanced MR Angiography of the Lower Extremity Arteries at 7 Tesla. *PLoS ONE* 10 (3), e0119845, 2015.

Moeninghoff C, Kraff O, Maderwald S, Umutlu L, Theysohn JM, Ringelstein A, Wrede KH, Deuschl C, Altmeppen J, Ladd ME, Forsting M, Quick HH, Schlamann M: Diffuse axonal injury at ultra-high field MRI. *PLoS ONE* 10 (3), e0122329, 2015.

Lerchl A, Klose M, Grote K, Wilhelm AF, Spathmann O, Fiedler T, Streckert J, Hansen V, Clemens M: Tumor promotion by exposure to radiofrequency electromagnetic fields below exposure limits for humans. *Biochemical and Biophysical Research Communications* 459 (4), 585-590, 2015.

Merz M, Seyler L, Bretsch M, Semmler W, Baeuerle T: Diffusion-weighted imaging and dynamic contrast-enhanced MRI of experimental breast cancer bone metastases--a correlation study with histology. *European Journal of Radiology* 84 (4), 623-630, 2015.

Niesporek SC, Hoffmann SH, Berger MC, Benkhedah N, Kujawa A, Bachert P, Nagel AM: Partial volume correction for in vivo ^{23}Na -MRI data of the human brain. *Neuroimage* 112, 353-63, 2015.

Stefanescu MR, Dohnalek M, Maderwald S, Thurling M, Minnerop M, Beck A, Schlamann M, Diedrichsen J, Ladd ME, Timmann D: Structural and functional MRI abnormalities of cerebellar cortex and nuclei in SCA3, SCA6 and Friedreich's ataxia. *Brain* 138 (Pt 5), 1182-1197, 2015.

Semmler W, Layer G, Delorme S: Prof. Dr. Gerhard van Kaick on his 80th Birthday, has works published, Professor. *Radiologe* 55 (5), 403-404, 2015.

Holbach M, Lambert J, Johst S, Ladd ME, Suter D: Optimized selective lactate excitation with a refocused multiple-quantum filter. *Journal of Magnetic Resonance* 255, 34-38, 2015.

Kraff O, Fischer A, Nagel AM, Moeninghoff C, Ladd ME: MRI at 7 Tesla and Above: Demonstrated and Potential Capabilities. *Journal of Magnetic Resonance Imaging* 41 (1), 13-33, 2015.

Hoerner S, Uth C, Avrutina O, Frauendorf H, Wiessler M, Kolmar H: Correction: Combination of inverse electron-demand Diels-Alder reaction with highly efficient oxime ligation expands the toolbox of site-selective peptide conjugations. *Chemical Communications* 51 (58), 11727-11727, 2015.

Hahnemann ML, Kraff O, Orzada S, Umutlu L, Kinner S, Ladd ME, Quick HH, Lauenstein TC: T1-Weighted Contrast-Enhanced Magnetic Resonance Imaging of the Small Bowel: Comparison Between 1.5 and 7 T. *Investigative Radiology* 50 (8), 539-547, 2015.

Graessl A, Ruehle A, Waiczies H, Resetar A, Hoffmann SH, Rieger J, Wetterling F, Winter L, Nagel AM, Niendorf T: Sodium MRI of the human heart at 7.0T: preliminary results. *NMR in Biomedicine* 28 (8), 967-975, 2015.

Hoerner S, Uth C, Avrutina O, Frauendorf H, Wiessler M, Kolmar H: Combination of inverse electron-demand Diels-Alder reaction with highly efficient oxime ligation expands the toolbox of site-selective peptide conjugations. *Chemical Communications* 51 (55), 11130-11133, 2015.

Kuder TA, Laun FB: Effects of pore-size and shape distributions on diffusion pore imaging by nuclear magnetic resonance. *Physical Review / E* 92 (2), Art. Nr.: 022706, 2015.

Laun FB, Kuder TA, Zong F, Hertel S, Galvosas P: Symmetry of the gradient profile as second experimental dimension in the short-time expansion of the apparent diffusion coefficient as measured with NMR diffusometry. *Journal of Magnetic Resonance* 259, 10-9, 2015.

Reich E, Zaiss M, Korzowski A, Ladd ME, Bachert P: Relaxation-compensated CEST-MRI at 7 T for mapping of creatine content and pH - preliminary application in human muscle tissue in vivo. *NMR in Biomedicine* 28 (11), 1402-1412, 2015.

Evan de Bank BL, Orzada S, Smits F, Lagemaat MW, Rodgers CT, Bitz AK, Scheenen TW: Optimized (31) P MRS in the human brain at 7 T with a dedicated RF coil setup. *NMR in Biomedicine* 28 (11), 1570-1578, 2015.

Resetar A, Hoffmann SH, Graessl A, Winter L, Waiczies H, Ladd ME, Niendorf T, Nagel AM: Retrospectively-gated CINE (23)Na imaging of the heart at 7.0Tesla using density-adapted 3D projection reconstruction. *Magnetic Resonance Imaging* 33 (9), 1091-1097, 2015.

Ning L, Laun F, Gur Y, DiBella EV, Deslauriers-Gauthier S, Megherbi T, Ghosh A, Zucchelli M, Menegaz G, Fick R, St-Jean S, Paquette M, Aranda R, Descoteaux M, Deriche R, O'Donnell L, Rathi Y: Sparse Reconstruction Challenge for diffusion MRI: Validation on a physical phantom to determine which acquisition scheme and analysis method to use?. *Medical Image Analysis* 26 (1), 316-331, 2015.

Roethke MC, Kuder TA, Kuru TH, Fenchel M, Hadaschik BA, Laun FB, Schlemmer HP, Stieltjes B: Evaluation of Diffusion Kurtosis Imaging Versus Standard Diffusion Imaging for Detection and Grading of Peripheral Zone Prostate Cancer. *Investigative Radiology* 50 (8), 483-489, 2015.

Paech D, Burth S, Windschuh J, Meissner JE, Zaiss M, Eidel O, Kickingreder P, Nowosielski M, Wiestler B, Sahm F, Floca RO, Neumann JO, Wick W, Heiland S, Bendszus M, Schlemmer HP, Ladd ME, Bachert P, Radbruch A: Nuclear Overhauser Enhancement Imaging of Glioblastoma at 7 Tesla: Region Specific Correlation with Apparent Diffusion Coefficient and Histology. *PLoS ONE* 10 (3), e0121220, 2015.

Windschuh J, Zaiss M, Meissner JE, Paech D, Radbruch A, Ladd ME, Bachert P: Correction of B1-inhomogeneities for relaxation-compensated CEST imaging at 7 T. *NMR in Biomedicine* 28 (5), 529-537, 2015.

Paar S, Umatham R, Jiang X, Majer C, Peter J: Development and investigation of a magnetic resonance imaging-compatible microlens-based optical detector. *Journal of Biomedical Optics* 20 (9), 095007, 2015.

Ritschl L, Fahrig R, Knaup M, Kachelrieß M: Robust Primary Modulation-Based Scatter Estimation for Cone-Beam CT. *Medical Physics* 42 (1), 469-478, 2015.

Zaiss M, Windschuh J, Paech D, Meissner JE, Burth S, Schmitt B, Kickingreder P, Wiestler B, Wick W, Bendszus M, Schlemmer HP, Ladd ME, Bachert P, Radbruch A: Relaxation-compensated CEST-MRI of the human brain at 7T: Unbiased insight into NOE and amide signal changes in human glioblastoma. *Neuroimage* 112, 180-188, 2015.

Freitag MT, Breithaupt M, Berger M, Umatham R, Nagel AM, Hassel J, Ladd ME, Schlemmer HP, Semmler W, Stieltjes B: In vivo visualization of mesoscopic anatomy of healthy and pathological lymph nodes using 7T MRI: A feasibility study. *Journal of Magnetic Resonance Imaging* 41 (5), 1405-1412, 2015.

Faby S, Kuchenbecker S, Sawall S, Simons D, Schlemmer HP, Lell M, Kachelriess M: Performance of today's dual energy CT and future multi energy CT in virtual non-contrast imaging and in iodine quantification: A simulation study. *Medical Physics* 42 (7), 4349-4366, 2015.

Marschar AM., Kuder TA, Stieltjes B, Nagel AM, Bachert P, Laun FB: In vivo imaging of the time-dependent apparent diffusional kurtosis in the human calf muscle. *Journal of Magnetic Resonance Imaging* 41 (6), 1581-1590, 2015.

Wetscherek A, Stieltjes B, Laun FB: Flow-compensated intravoxel incoherent motion diffusion imaging. *Magnetic Resonance in Medicine* 74 (2), 410-419, 2015.

Meissner JE, Goerke S, Rerich E, Klika KD, Radbruch A, Ladd ME, Bachert P, Zaiss M: Quantitative pulsed CEST-MRI using Omega-plots. *NMR in Biomedicine* 28 (10), 1196-1208, 2015.

Yang Y, Gorzelanny C, Bauer AT, Halter N, Komljenovic D, Bäuerle T, Borsig L, Roblek M, Schneider SW. Nuclear heparanase-1 activity suppresses melanoma progression via its DNA-binding affinity. *Oncogene* 34 (47), 5832-5842, 2015.

Kuchenbecker S, Faby S, Sawall S, Lell M, Kachelriess M: Dual energy CT: How well can pseudo-monochromatic imaging reduce metal artifacts?. *Medical Physics* 42 (2), 1023-1036, 2015.

Schuller S, Sawall S, Stannigel K, Hulsbusch M, Ulrici J, Hell E, Kachelriess M: Segmentation-free empirical beam hardening correction for CT. *Medical Physics* 42 (2), 794-803, 2015.

Lell MM, Wildberger JE, Alkadhi H, Damilakis J, Kachelriess M: Evolution in Computed Tomography: The Battle for Speed and Dose. *Investigative Radiology* 50 (9), 629-644, 2015.

Bodet O, Goerke S, Behl NG, Roeloffs V, Zaiss M, Bachert P: Amide proton transfer of carnosine in aqueous solution studied in vitro by WEX and CEST experiments. *NMR in Biomedicine* 28 (9), 1097-1103, 2015.

Afshar-Oromieh A, Hetzheim H, Kratochwil C, Benesova M, Eder M, Neels OC, Eisenhut M, Kuebler W, Holland-Letz T, Giesel FL, Mier W, Kopka K, Haberkorn U: The Theranostic PSMA Ligand PSMA-617 in the Diagnosis of Prostate Cancer by PET/CT: Biodistribution in Humans, Radiation Dosimetry, and First Evaluation of Tumor Lesions. *Journal of Nuclear Medicine* 56 (11), 1697-1705, 2015.

Chang DI, Lissek S, Ernst TM, Thurling M, Uengoer M, Tegenthoff M, Ladd M E, Timmann D: Cerebellar Contribution to Context Processing in Extinction Learning and Recall. *Cerebellum* 14 (6), 670-676, 2015.

Nouredine Y, Bitz AK, Ladd ME, Thürling M, Ladd SC, Schaeffers G, Kraff O: Experience with magnetic resonance imaging of human subjects with passive implants and tattoos at 7 T: a retrospective study. *Magnetic Resonance Materials in Physics Biology and Medicine* 28 (6), 577-590, 2015.

Mogler C, Wieland M, Koenig C, Hu J, Runge A, , Korn C, Besemfelder E, Breitkopf-Heinlein K, Komljenovic D, Dooley S, , Schirmacher P, Longerich T, Augustin HG: Hepatic stellate cell expressed Endosialin balances fibrogenesis and hepatocyte proliferation during liver damage. *EMBO Molecular Medicine* 7 (3), 332-338, 2015.

Rathmann N, Kostrzewa M, Kara K, Bartling S, Haubenreisser H, Schoenberg SO, Diehl SJ: Radiation exposure of the interventional radiologist during percutaneous biopsy using a multiaxis interventional C-arm CT system with 3D laser guidance: a phantom study. *British Journal of Radiology* 88 (1055), 20150151, 2015.

Rink K, Berger MC, Korzowski A, Breithaupt M, Biller A, Bachert P, Nagel AM: Nuclear-Overhauser-enhanced MR imaging of (^{31}P) -containing metabolites: multipoint-Dixon vs. frequency-selective excitation. *Magnetic Resonance Imaging* 33 (10), 1281-1289, 2015.

Brehm M, Sawall S, Maier J, Sauppe S, Kachelriess M: Cardiorespiratory motion-compensated micro-CT image reconstruction using an artifact model-based motion estimation. *Medical Physics* 42 (4), 1948-1958, 2015.

Mann P, Witte M, Armbruster S, Runz A, Lang C, Breithaupt M, Berger M, Biederer J, Karger CP, Moser T: Feasibility of polymer gel dosimetry for validation of gated radiotherapy treatments in a dynamic porcine lung phantom. *Journal of Physics / Conference Series* 573, Art. Nr.: 012079, 2015.

Lips KS, Yanko O, Kneffel M, Panzer I, Kauschke V, Madzharova M, Henss A, Schmitz P, Rohnke M, Baeuerle T, Liu Y, Kampschulte M, Langheinrich AC, Durselen L, Ignatius A, Heiss C, Schnettler R, Kilian O: Small changes in bone structure of female $\alpha 7$ nicotinic acetylcholine receptor knockout mice. *BMC Musculoskeletal Disorders* 16 (1), 5, 2015.

Li H, Li K, Zhang XY, Jiang X, Zu Z, Zaiss M, Gochberg DF, Gore JC, Xu J: R1 correction in amide proton transfer imaging: indication of the influence of transcytolemmal water exchange on CEST measurements. *NMR in Biomedicine* 28 (12), 1655-1662, 2015.

Schwahofer A, Baer E, Kuchenbecker S, Grossmann JG, Kachelrieß M, Sterzing F: The application of metal artifact reduction (MAR) in CT scans for radiation oncology by monoenergetic extrapolation with a DECT scanner. *Die Anwendung der Metallartefaktreduktion (MAR) in CT-Aufnahmen für die Strahlentherapie durch monoenergetische Extrapolation mit einem DECT-Scanner. Zeitschrift fuer Medizinische Physik* 25 (4), 314-325, 2015.

Gaass T, Bauman G, Biederer J, Hintze C, Schneider M, Dinkel J: Pulmonary perfusion imaging: Qualitative comparison of TCIR MRI and SPECT/CT in porcine lung. *European Journal of Radiology* 84 (12), 2646-2653, 2015.

Goerke S, Zaiss M, Kunz P, Klika KD, Windschuh JD, Mogk A, Bukau B, Ladd ME, Bachert P: Signature of protein unfolding in chemical exchange saturation transfer imaging. *NMR in Biomedicine* 28 (7), 906-913, 2015.

Neumann JO, Giese H, Biller A, Nagel AM, Kiening K: Spatial Distortion in MRI-Guided Stereotactic Procedures: Evaluation in 1.5-, 3- and 7-Tesla MRI Scanners. *Stereotactic and Functional Neurosurgery* 93 (6), 380-386, 2015.