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Research Interests

- Non-bijective gradient encoding
- Novel reconstruction techniques
- Parallel imaging
- High-field MR

Projects

- PatLoc
- INUMAC

Publications

Journal papers

- H. Weber, D. Gallichan, G. Schultz, C. Cocosco, S. Littin, W. Reichardt, A. Welz, W. Witschey, J. Hennig and M. Zaitsev Excitation and geometrically matched local encoding of curved slices Magnetic Resonance in Medicine, accepted May 13th, 2012
- D. Gallichan, C. A. Cocosco, G. Schultz, H. Weber, A. M. Welz, J. Hennig and M. Zaitsev Practical considerations for in vivo MRI with higher dimensional spatial encoding Magnetic Resonance Materials in Physics, Biology and Medicine, published online April 6th, 2012
- F.-H. Lin, T. Witzel, G. Schultz, D. Gallichan, W.-J. Jui, F.-N. Wang, J. Hennig, M. Zaitsev and J. W. Belliveau Reconstruction of MRI data encoded by multiple non-bijective curvilinear magnetic fields Magnetic Resonance in Medicine, accepted Nov. 18th, 2011, in press
- W. R. Witschey, C. A. Cocosco, D. Gallichan, G. Schultz, H. Weber, A. M. Welz, J. Hennig and M. Zaitsev Localization by Nonlinear Phase Preparation and K-Space Trajectory Design Magnetic Resonance in Medicine, Vol. 67, No. 6, pp. 1620-1632, 2011
- G. Schultz, H. Weber, D. Gallichan, R. T. Witschey, A. M. Welz, C. A. Cocosco, J. Hennig and M. Zaitsev Radial Imaging with Multipolar Magnetic Encoding Fields IEEE Transactions on Medical Imaging, Vol. 30, No. 12, pp. 2134-2145, 2011
- D. Gallichan, C.A.Cocosco, A. Dewdney, G. Schultz, A. Welz, J. Hennig and M. Zaitsev Simultaneously Driven Linear and Nonlinear Spatial Encoding Fields in MRI Magnetic Resonance in Medicine, Vol. 65, No. 3, pp. 702-714, 2011
- G. Schultz, P. Ullmann, H. Lehr, A. M. Welz, J. Hennig and M. Zaitsev Reconstruction of MRI Data Encoded With Arbitrarily Shaped, Curvilinear, Nonbijective Magnetic Fields Magnetic Resonance in Medicine, Vol. 64, No. 5, pp. 1390-1403, 2010
- G. Schultz and K. Mombaur Modeling and Optimal Control of Human-Like Running IEEE/ASME Transactions on Mechatronics, Vol. 15, No. 5, pp. 783-792, 2010
- J. Hennig, A. Welz, G. Schultz, J. Korvink, Z. Liu, O. Speck and M. Zaitsev Parallel imaging in non-bijective, curvilinear magnetic field gradients: a concept study [Magnetic Resonance Materials in Physics, Biology and Medicine Vol. 21, No. 1-2, pp. 5-14, 2008](#)

Conference abstracts (as first author)

- Gerrit Schultz, Daniel Gallichan, Hans Weber, Walter R. Witschey, Matthias Honal, Jürgen Hennig and Maxim Zaitsev K-Space Based Image Reconstruction of MRI Data Encoded with Ambiguous Gradient Fields Proceedings of the ISMRM, #481, 2011
- Gerrit Schultz, Daniel Gallichan, Marco Reisert, Jürgen Hennig and Maxim Zaitsev Fast Image Reconstruction for Generalized Projection Imaging Proceedings of the ISMRM, #2868, 2011
- Gerrit Schultz, Hans Weber, Daniel Gallichan, Jürgen Hennig and Maxim Zaitsev Image Reconstruction from Radially Acquired Data using Multipolar Encoding Fields Proceedings of the ISMRM, #82, 2010
- Gerrit Schultz and Maxim Zaitsev Estimation of Superresolution Performance Proceedings of the ISMRM, #2935, 2010
- Gerrit Schultz, Maxim Zaitsev and Jürgen Hennig Effects of Discrete and Finite Sampling in PatLoc Imaging Proceedings of the ISMRM, #563, 2009

- Gerrit Schultz, Maxim Zaitsev, Peter Ullmann, Heinrich Lehr and Jürgen Hennig Noise Behavior of Caresian PatLoc Reconstruction Proceedings of the ISMRM, #762, 2009
- Gerrit Schultz, Jürgen Hennig and Maxim Zaitsev Reconstruction from Ambiguous PatLoc-Encoded MR Data Proceedings of the ISMRM, #786, 2008
- Gerrit Schultz, Anna Welz, Jürgen Hennig and Maxim Zaitsev Generalized Two-Dimensional Orthogonal Spatial Encoding Fields Proceedings of the ISMRM, #2992, 2008

Diploma Thesis

- Gerrit Schultz Generation of Optimal Human Running Gaits Diploma Thesis, University of Heidelberg, 2007

Awards

- 2nd Winner of the Gorter Award at the Annual Meeting of the German Chapter of the ISMRM, Basel, 2009
- Poster Award at the Annual Meeting of the German Chapter of the ISMRM, Frankfurt, 2008