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## Articles in Preparation

- [1] S. Wagner, F.L., J. Vorwerk, C.S. Herrmann, G. Nolte, M. Burger. Using reciprocity for relating the simulation of transcranial current stimulation to the EEG forward problem. *In revision for NeuroImage*.
- [2] S. Arridge, M. Betcke, B. Cox, F.L., B. Treeby. On the Adjoint Operator in Photoacoustic Tomography. *In revision for Inverse Problems, preprint on arXiv:1602.02027*.
- [3] S. Arridge, P. Beard, M. Betcke, B. Cox Nam Huynh, F.L. and E Zhang. Accelerated High-Resolution Photoacoustic Tomography via Compressed Sensing. *In preparation for Physics in Medicine & Biology*.
- [4] F.L. Fast Gibbs sampling for high-dimensional Bayesian inversion. *In preparation for Inverse Problems*.
- [5] N. Bissantz, C. Brune, M. Burger, H. Dette, F.L., K. Proksch and F. Wübbeling. Properties and Limitations of Risk Estimators for Choosing Regularization Parameters in Ill-Posed Problems. *In preparation*.
- [6] F.L., S. Tellen, C.H. Wolters, M. Burger. Sparse Recovery Conditions and Realistic Forward Modeling in EEG/MEG Source Reconstruction. *In preparation*.
- [7] F.L., Ümit Aydin, J. Vorwerk, M. Burger, C.H. Wolters. Hierarchical Bayesian Inference for Combined EEG/MEG Source Analysis. *In preparation for NeuroImage*.

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## Publications

- [1] L.D.J. Fiederer, J. Vorwerk, F. Lucka, M. Dannhauer, S. Yang, M. DümpeImann, A. Schulze-Bonhage, A. Aertsen, O. Speck, C.H. Wolters, and T. Ball. The role of blood vessels in high-resolution volume conductor head modeling of EEG. *NeuroImage*, 128:193 – 208, 2016.
- [2] F.L. *Bayesian Inversion in Biomedical Imaging*. PhD thesis, University of Muenster, 2014.
- [3] M. Burger and F.L. Maximum a posteriori estimates in linear inverse problems with log-concave priors are proper Bayes estimators. *Inverse Problems*, 30(11):114004, 2014.
- [4] S.M. Rampersad, A.M. Janssen, F.L., U. Aydin, B. Lanfer, S. Lew, C.H. Wolters, D.F. Stegeman, and T.F. Oostendorp. Simulating Transcranial Direct Current Stimulation With a Detailed Anisotropic Human Head Model. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 22(3):441–452, 2014.
- [5] A.M. Janssen, S.M. Rampersad, F.L., B. Lanfer, S. Lew, Ü. Aydin, C.H. Wolters, D.F. Stegeman, and T.F. Oostendorp. The influence of sulcus width on simulated electric fields induced by transcranial magnetic stimulation. *Physics in Medicine and Biology*, 58(14):4881, 2013.
- [6] F.L. Fast Markov chain Monte Carlo sampling for sparse Bayesian inference in high-dimensional inverse problems using L1-type priors. *Inverse Problems*, 28(12):125012, 2012.
- [7] F.L., S. Pursiainen, M. Burger, and C.H. Wolters. Hierarchical Bayesian inference for the EEG inverse problem using realistic FE head models: Depth localization and source separation for focal primary currents. *NeuroImage*, 61(4):1364–1382, 2012.

- [8] S. Wagner, F.L., M. Burger, L. Grasedyck, J. Haueisen, and C.H. Wolters. Comparison of direct and reciprocal forward modeling approaches in EEG source analysis. *Biomedical Engineering-Biomedizinische Technik*, 57(Suppl. 1):310, 2012.
- [9] S. Pursiainen, F.L., and C.H. Wolters. Complete electrode model in EEG: relationship and differences to the point electrode model. *Physics in Medicine & Biology*, 57(4):999–1017, 2012.
- [10] F.L., S. Pursiainen, M. Burger, and C.H. Wolters. Hierarchical Bayesian Models for EEG Inversion: Depth Localization and Source Separation for Focal Sources in Realistic FE Head Models. In *Biomedical Engineering*, volume 56. De Gruyter, 2011.
- [11] F.L. Hierarchical Bayesian Approaches to the Inverse Problem of EEG/MEG Current Density Reconstruction. Diploma thesis, University of Münster, March 2011.