PUBLICATIONS

CHRISTOPH BRUNE

PUBLICATIONS

[1] Christoph Brune, Paul P. Lunkenheimer, Martin Burger, Hendrik Dirks, and Peter Niederer. 3D large scale pneumographic myocardial structure analysis - advanced denoising, motion and level-set techniques. Technical report, submitted to the conference image processing for medicine, Lübeck, October 2011.

[2] C. Brune. *4D Imaging in Tomography and Optical Nanoscopy*. Ph.D. thesis, Institute for Computational and Applied Mathematics, University of Münster, June 2010. http://wwwmath.uni-muenster.de/num/publications/2010/Bru10/.

[3] C. Brune, A. Sawatzky, T. Kösters, F. Wübbeling, and M. Burger. Forward backward EM-TV methods for inverse problems with Poisson noise. Preprint, May 2010.

[4] M. Dawood, C. Brune, X. Jiang, M. Burger, O. Schober, M. Schäfers, and K. Schäfers. A continuity equation based optical flow method for cardiac motion correction in 3D PET data. Technical report, in proceedings of the MICCAI Medical Image Computing and Computer Assisted Intervention conference, LNCS 10, May 2010.

[5] C. Brune, A. Sawatzky, and M. Burger. Primal and dual Bregman methods with application to optical nanoscopy. *International Journal of Computer Vision, Springer Netherlands*, April 2010. ISSN: 0920-5691 (Print) 1573-1405 (Online), Doi: 10.1007/s11263-010-0339-5.

[6] C. Brune, H. Maurer, and M. Wagner. Detection of intensity and motion edges within optical flow via multidimensional control. *SIAM J. Imag. Sci.*, 2(4):1190–1210, November 2009. Doi: 10.1137/080725064.

[7] A. Sawatzky, C. Brune, J. Mueller, and M. Burger. Total variation processing of images with Poisson statistics. In X. Jiang and N. Petkov, editors, *Proceedings of the 13th International Conference on Computer Analysis of Images and Patterns*, volume 5702, pages 533–540. Springer, July 2009. Doi: 10.1007/978-3-642-03767-2_65.

[8] C. Brune, A. Sawatzky, and M. Burger. Bregman-EM-TV methods with application to optical nanoscopy. In X.-C. Tai et al, editor, *Proceedings of the 2nd International Conference on Scale Space and Variational Methods in Computer Vision*, volume 5567 of *LNCS*, pages 235–246. Springer, April 2009.

[9] A. Sawatzky, C. Brune, F. Wübbeling, T. Kösters, K. Schäfers, and M. Burger. Accurate EM-TV algorithm in PET with low SNR. In *2008 IEEE Nuclear Science Symposium Conference Record*, pages 5133–5137, November 2008.

[10] C. Brune and M. Burger. Einparken dank mathematischem Schulterblick, Zahlen-Wissen, Mathematik in Forschung und Alltag. Contribution to the DVD of the German research foundation, year of science math, April 2008.

[11] C. Brune, H. Maurer, and M. Wagner. Kantenerkennung im optischen Fluss als mehrdimensionales Steuerungsproblem. Technical report, Preprint Series Mathematics M-01, BTU Cottbus, January 2008.

[12] C. Brune. Berechnung des optischen Flusses und Kantenerkennung mit Optimierungsmethoden. Diploma Thesis in Mathematics and Computer Science, Institute for Computational and Applied Mathematics, University of Münster, August 2007.

PAPERS IN PREPARATION

[13] Martin Benning, Christoph Brune, Martin Burger, and Jahn Müller. Approaches for reducing staircasing in total variation regularization and their deficiencies, 2010.

[14] Christoph Brune, Martin Burger, and Eldad Haber. 4D image reconstruction via optimal transport - models and analysis, 2010.

[15] Christoph Brune, Eldad Haber, and Martin Burger. Numerical methods for 4D image reconstruction via optimal transport, 2010.

[16] Klaus Frick, Christoph Brune, and Martin Burger. Convergence properties of the inexact augmented lagrangian method for inverse problems, 2010.