Journal Articles

[J1] B. Goldluecke, M. Aubry, K. Kolev and D. Cremers,
A Super-resolution Framework for High-Accuracy Multiview Reconstruction,

[J2] E. Strekalovskiy, A. Chambolle and D. Cremers,
Convex Relaxation of Vectorial Problems with Coupled Regularization,

[J3] C. Nieuwenhuis and D. Cremers,
Spatially Varying Color Distributions for Interactive Multi-Label Segmentati-
on,

[J4] C. Nieuwenhuis, E. Toeppe and D. Cremers,
A Survey and Comparison of Discrete and Continuous Multi-label Optimization
Approaches for the Potts Model,

[J5] B. Goldluecke, E. Strekalovskiy and D. Cremers,
Tight Convex Relaxations for Vector-Valued Labeling,

[J6] A. Chambolle, D. Cremers and T. Pock,
A Convex Approach to Minimal Partitions,

[J7] D. Cremers,
Optimal Solutions for Semantic Image Decomposition,

[J8] B. Goldluecke, E. Strekalovskiy and D. Cremers,
The Natural Total Variation Which Arises from Geometric Measure Theory,

[J9] K. Kolev, T. Brox and D. Cremers,
Fast Joint Estimation of Silhouettes and Dense 3D Geometry from Multiple
Images,

[J10] D. Cremers and E. Strekalovskiy,
Total Cyclic Variation and Generalizations,

[J11] D. Cremers and K. Kolev,
Multiview Stereo and Silhouette Consistency via Convex Functionals over
Convex Domains,

[J12] T. Pock, D. Cremers, H. Bischof and A. Chambolle,
Global Solutions of Variational Models with Convex Regularization,
Keywords: Convex-relaxation 

List of Publications

[J13] K. Kolev, M. Klodt, T. Brox and D. Cremers, 
Continuous Global Optimization in Multiview 3D Reconstruction, 

[J14] J. Keuchel, C. Schnörr, C. Schellewald and D. Cremers, 
Binary partitioning, perceptual grouping, and restoration with semidefinite programming, 

Book Chapters

[BC1] M. Klodt, F. Steinbruecker and D. Cremers, 
Moment Constraints in Convex Optimization for Segmentation and Tracking, 

[BC2] D. Cremers, T. Pock, K. Kolev and A. Chambolle, 
Convex Relaxation Techniques for Segmentation, Stereo and Multiview Reconstruction, 

Conference and Workshop Papers

[C1] T. Möllenhoff and D. Cremers, 
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems, 

[C2] T. Möllenhoff, E. Laude, M. Moeller, J. Lellmann and D. Cremers, 
Sublabel-Accurate Relaxation of Nonconvex Energies, 
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016. Oral Presentation, Received the Best Paper Honorable Mention Award at CVPR 2016.

[C3] E. Laude, T. Möllenhoff, M. Moeller, J. Lellmann and D. Cremers, 
Sublabel-Accurate Convex Relaxation of Vectorial Multilabel Energies, 
*European Conference on Computer Vision (ECCV)*, October 2016.

[C4] N. Nagaraja, F. R. Schmidt and T. Brox, 
Video Segmentation with Just a Few Strokes, 
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, Dec 2015.

[C5] M. R. Oswald and D. Cremers, 
Surface Normal Integration for Convex Space-time Multi-view Reconstruction, 

[C6] C. Nieuwenhuis, S. Hawe, M. Kleinstueber and D. Cremers, 
Co-Sparse Textural Similarity for Interactive Segmentation, 

[C7] M. R. Oswald, J. Stühmer and D. Cremers, 
Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction, 

[C8] E. Strekalovskiy and D. Cremers, 
Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional, 
Keywords: Convex-relaxation  List of Publications

[C9] E. Toeppe, C. Nieuwenhuis and D. Cremers,  
*Volume Constraints for Single View Reconstruction*,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, USA,  
2013.

[C10] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,  
*A Co-occurrence Prior for Continuous Multi-Label Optimization*,  
*Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCV-PR)*,  
2013.

[C11] F. Stangl, M. Souiai and D. Cremers,  
*Performance Evaluation of Narrow Band Methods for Variational Stereo*,  
*35th German Conference on Pattern Recognition (GCPR)*,  
2013.

[C12] T. Möllenhoff, C. Nieuwenhuis, E. Toeppe and D. Cremers,  
*Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints*,  
*Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCV-PR)*,  
2013.

[C13] M. Klodt, J. Sturm and D. Cremers,  
*Scale-Aware Object Tracking with Convex Shape Constraints on RGB-D Images*,  
*German Conference on Pattern Recognition (GCPR)*, Saarbrücken, Germany, September  
2013.

[C14] J. Lellmann, E. Strekalovskiy, S. Koetter and D. Cremers,  
*Total Variation Regularization for Functions with Values in a Manifold*,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December  
2013.

[C15] C. Nieuwenhuis, E. Strekalovskiy and D. Cremers,  
*Proportion Priors for Image Sequence Segmentation*,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December  
2013.

[C16] J. Stühmer, P. Schröder and D. Cremers,  
*Tree Shape Priors with Connectivity Constraints using Convex Relaxation on General Graphs*,  
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December  
2013, *Oral Presentation*.

[C17] M. R. Oswald and D. Cremers,  
*A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction*,  
*ICCV Workshop on Dynamic Shape Capture and Analysis (4DMOD)*,  
2013.

[C18] E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,  
*Nonmetric Priors for Continuous Multilabel Optimization*,  

[C19] M. R. Oswald, E. Toeppe and D. Cremers,  
*Fast and Globally Optimal Single View Reconstruction of Curved Objects*,  
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, Rhode Island, 534-541, jun 2012.
Keywords: Convex-relaxation

List of Publications

[C20] E. Strekalovskiy, A. Chambolle and D. Cremers,
A Convex Representation for the Vectorial Mumford-Shah Functional,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, Rhode Island, jun 2012.

[C21] N. Ufer, M. Souiai and D. Cremers,
Wehrli 2.0: An Algorithm for ”Tidying up Art”,

[C22] E. Strekalovskiy and D. Cremers,
Total Variation for Cyclic Structures: Convex Relaxation and Efficient Minimization,

[C23] B. Goldluecke and D. Cremers,
Introducing Total Curvature for Image Processing,
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C24] E. Strekalovskiy, B. Goldluecke and D. Cremers,
Tight Convex Relaxations for Vector-Valued Labeling Problems,
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C25] E. Strekalovskiy and D. Cremers,
Generalized Ordering Constraints for Multilabel Optimization,
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C26] C. Nieuwenhuis, E. Toeppe and D. Cremers,
Space-Varying Color Distributions for Interactive Multiregion Segmentation: Discrete versus Continuous Approaches,

[C27] M. Klodt and D. Cremers,
A Convex Framework for Image Segmentation with Moment Constraints,
*IEEE International Conference on Computer Vision (ICCV)*, 2011.

[C28] E. Toeppe, M. R. Oswald, D. Cremers and C. Rother,
Silhouette-Based Variational Methods for Single View Reconstruction,

[C29] E. Toeppe, M. R. Oswald, D. Cremers and C. Rother,
Image-based 3D Modeling via Cheeger Sets,
Asian Conference on Computer Vision, Queenstown, New Zealand, 53-64, nov 2010, Received Honorable Mention Award.

[C30] B. Goldluecke and D. Cremers,
Convex Relaxation for Multilabel Problems with Product Label Spaces,
Keywords: Convex-relaxation

List of Publications

[C31] M. R. Oswald, E. Toeppe, K. Kolev and D. Cremers,
Non-Parametric Single View Reconstruction of Curved Objects using Convex Optimization,
Pattern Recognition (Proc. DAGM), Jena, Germany, 171-180, September 2009, Received a DAGM Paper Award.

[C32] T. Pock, A. Chambolle, H. Bischof and D. Cremers,
A Convex Relaxation Approach for Computing Minimal Partitions,

[C33] T. Pock, D. Cremers, H. Bischof and A. Chambolle,
An Algorithm for Minimizing the Piecewise Smooth Mumford-Shah Functional,
IEEE International Conference on Computer Vision (ICCV), Kyoto, Japan, 2009.

[C34] T. Pock, T. Schoenemann, G. Graber, H. Bischof and D. Cremers,
A Convex Formulation of Continuous Multi-Label Problems,
European Conference on Computer Vision (ECCV), Marseille, France, October 2008.

[C35] M. Klodt, T. Schoenemann, K. Kolev, M. Schikora and D. Cremers,
An Experimental Comparison of Discrete and Continuous Shape Optimization Methods,
European Conference on Computer Vision (ECCV), Marseille, France, October 2008.

[C36] D. Cremers, F. R. Schmidt and F. Barthel,
Shape Priors in Variational Image Segmentation: Convexity, Lipschitz Continuity and Globally Optimal Solutions,

[C37] K. Kolev, M. Klodt, T. Brox and D. Cremers,
Propagated Photoconsistency and Convexity in Variational Multiview 3D Reconstruction,

[C38] K. Kolev, M. Klodt, T. Brox, S. Esedoglu and D. Cremers,
Continuous Global Optimization in Multiview 3D Reconstruction,

[C39] J. Keuchel, C. Schnoerr, C. Schellewald and D. Cremers,
Unsupervised Image Partitioning with Semidefinite Programming,

[C40] J. Keuchel, C. Schellewald, D. Cremers and C. Schnoerr,
Convex Relaxations for Binary Image Partitioning and Perceptual Grouping,
Radig, B., Florczyk and S.(Eds.), Pattern Recognition, Munich, Germany, Springer, LNCS, Vol. 2191, 353-360, Sept. 2001, Received a DAGM Paper Award.

PhDThesis
Keywords: Convex-relaxation

List of Publications

[PhD1] K. Kolev,
Convexity in Image-Based 3D Surface Reconstruction,
Department of Computer Science, Technical University Munich, Germany, January 2012.

Technical Reports

[R1] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Label Configuration Priors for Continuous Multi-Label Optimization,

[R2] A. Chambolle, D. Cremers and T. Pock,
A Convex Approach for Computing Minimal Partitions,