Convex Relaxation Methods

List of Publications

[C1] 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.

[C2] T. Windheuser and D. Cremers,
A Convex Solution to Spatially-Regularized Correspondence Problems,
European Conference on Computer Vision (ECCV), October 2016.

[C1] 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.

[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,

[C1] M. R. Oswald and D. Cremers,
Surface Normal Integration for Convex Space-time Multi-view Reconstruction,
British Machine Vision Conference (BMVC), 2014.

[C2] C. Nieuwenhuis, S. Hawe, M. Kleinsteuber and D. Cremers,
Co-Sparse Textural Similarity for Interactive Segmentation,
European Conference on Computer Vision (ECCV), 2014.

[C3] M. R. Oswald, J. Stühmer and D. Cremers,
Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction,

[C4] E. Strekalovskiy and D. Cremers,
Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional,

[J1] C. Nieuwenhuis and D. Cremers,
Spatially Varying Color Distributions for Interactive Multi-Label Segmentation,

[J2] C. Nieuwenhuis, E. Toeppe and D. Cremers,
A Survey and Comparison of Discrete and Continuous Multi-label Optimization Approaches for the Potts Model,

[J3] B. Goldluecke, E. Strekalovskiy and D. Cremers,
Tight Convex Relaxations for Vector-Valued Labeling,
[BC1] M. Klodt, F. Steinbruecker and D. Cremers, 
Moment Constraints in Convex Optimization for Segmentation and Tracking, 

[C1] 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.

[C2] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers, 
A Co-occurrence Prior for Continuous Multi-Label Optimization, 

[C3] F. Stangl, M. Souiai and D. Cremers, 
Performance Evaluation of Narrow Band Methods for Variational Stereo, 
35th German Conference on Pattern Recognition (GCPR), 2013.

[C4] T. Möllenhoff, C. Nieuwenhuis, E. Toeppe and D. Cremers, 
Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints, 

[C5] 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.

[C6] 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.

[C7] C. Nieuwenhuis, E. Strekalovskiy and D. Cremers, 
Proportion Priors for Image Sequence Segmentation, 
IEEE International Conference on Computer Vision (ICCV), Sydney, Australia, December 2013.

[C8] 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.

[C9] 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.
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[R1] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Label Configuration Priors for Continuous Multi-Label Optimization,

[J1] A. Chambolle, D. Cremers and T. Pock,
A Convex Approach to Minimal Partitions,

[J2] D. Cremers,
Optimal Solutions for Semantic Image Decomposition,

[J3] B. Goldluecke, E. Strekalovskiy and D. Cremers,
The Natural Total Variation Which Arises from Geometric Measure Theory,

[J4] K. Kolev, T. Brox and D. Cremers,
Fast Joint Estimation of Silhouettes and Dense 3D Geometry from Multiple Images,

[J5] D. Cremers and E. Strekalovskiy,
Total Cyclic Variation and Generalizations,

[C1] E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Nonmetric Priors for Continuous Multilabel Optimization,

[C2] 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, June 2012.

[C3] 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, June 2012.

[C4] N. Ufer, M. Souiai and D. Cremers,
Wehrli 2.0: An Algorithm for Tidying up Art,

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

[J1] D. Cremers and K. Kolev, 
Multiview Stereo and Silhouette Consistency via Convex Functionals over Convex Domains, 

[BC1] D. Cremers, T. Pock, K. Kolev and A. Chambolle, 
Convex Relaxation Techniques for Segmentation, Stereo and Multiview Reconstruction, 

[C1] E. Strekalovskiy and D. Cremers, 
Total Variation for Cyclic Structures: Convex Relaxation and Efficient Minimization, 

[C2] B. Goldluecke and D. Cremers, 
Introducing Total Curvature for Image Processing, 
IEEE International Conference on Computer Vision (ICCV), 2011.

[C3] E. Strekalovskiy, B. Goldluecke and D. Cremers, 
Tight Convex Relaxations for Vector-Valued Labeling Problems, 
IEEE International Conference on Computer Vision (ICCV), 2011.

[C4] E. Strekalovskiy and D. Cremers, 
Generalized Ordering Constraints for Multilabel Optimization, 
IEEE International Conference on Computer Vision (ICCV), 2011.

[C5] C. Nieuwenhuis, E. Toeppe and D. Cremers, 
Space-Varying Color Distributions for Interactive Multiregion Segmentation: Discrete versus Continuous Approaches, 

[C6] M. Klodt and D. Cremers, 
A Convex Framework for Image Segmentation with Moment Constraints, 
IEEE International Conference on Computer Vision (ICCV), 2011.

[C7] E. Toeppe, M. R. Oswald, D. Cremers and C. Rother, 
Silhouette-Based Variational Methods for Single View Reconstruction, 

[J1] T. Pock, D. Cremers, H. Bischof and A. Chambolle, 
Global Solutions of Variational Models with Convex Regularization, 
Convex Relaxation Methods

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[C1] 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, November 2010, Received Honorable Mention Award.

[C2] K. Kolev, T. Pock and D. Cremers,
Anisotropic Minimal Surfaces Integrating Photoconsistency and Normal Information for Multiview Stereo,
European Conference on Computer Vision (ECCV), Heraklion, Greece, September 2010.

[C3] B. Goldluecke and D. Cremers,
Convex Relaxation for Multilabel Problems with Product Label Spaces,

[J1] K. Kolev, M. Klodt, T. Brox and D. Cremers,
Continuous Global Optimization in Multiview 3D Reconstruction,

[C1] 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.

[C2] T. Pock, A. Chambolle, H. Bischof and D. Cremers,
A Convex Relaxation Approach for Computing Minimal Partitions,

[C3] K. Kolev and D. Cremers,
Continuous Ratio Optimization via Convex Relaxation with Applications to Multiview 3D Reconstruction,

[C4] 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.

[C1] 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.

[C2] W. Trobin, T. Pock, D. Cremers and H. Bischof,
Continuous Energy Minimization via Repeated Binary Fusion,
European Conference on Computer Vision (ECCV), Marseille, France, October 2008.
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[C3] K. Kolev and D. Cremers, 
Integration of Multiview Stereo and Silhouettes via Convex Functionals on Convex Domains, 

[C4] M. Klodt, T. Schoenemann, K. Kolev, M. Schikora and D. Cremers, 
An Experimental Comparison of Discrete and Continuous Shape Optimization Methods, 

[R1] A. Chambolle, D. Cremers and T. Pock, 
A Convex Approach for Computing Minimal Partitions, 

[C1] K. Kolev, M. Klodt, T. Brox and D. Cremers, 
Propagated Photoconsistency and Convexity in Variational Multiview 3D Reconstruction, 

[C2] K. Kolev, M. Klodt, T. Brox, S. Esedoglu and D. Cremers, 
Continuous Global Optimization in Multiview 3D Reconstruction, 

[J1] J. Keuchel, C. Schnörr, C. Schellewald and D. Cremers, 
Binary partitioning, perceptual grouping, and restoration with semidefinite programming, 

[C1] J. Keuchel, C. Schnoerr, C. Schellewald and D. Cremers, 
Unsupervised Image Partitioning with Semidefinite Programming, 

[C1] J. Keuchel, C. Schellewald, D. Cremers and C. Schnoerr, 
Convex Relaxations for Binary Image Partitioning and Perceptual Grouping, 
Radig, B., Florczzyk and S.(Eds.), *Pattern Recognition*, Munich, Germany, Springer, LNCS, Vol. 2191, 353-360, Sept. 2001, Received a DAGM Paper Award.