Convex Relaxation Methods

List of Publications


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[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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[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,
[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*,

[C1] T. Pock, T. Schoenemann, G. Graber, H. Bischof and D. Cremers,
*A Convex Formulation of Continuous Multi-Label Problems*,

[C2] W. Trobin, T. Pock, D. Cremers and H. Bischof,
*Continuous Energy Minimization via Repeated Binary Fusion*,
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[C3] K. Kolev and D. Cremers,

Integration of Multiview Stereo and Silhouettes via Convex Functionals on Convex Domains,

_European Conference on Computer Vision (ECCV),_ Marseille, France, October 2008.

[C4] 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.

[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 Programmifng,


[C1] 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.