Journal Articles

[J1] E. Laude, P. Ochs and D. Cremers,  
**Bregman Proximal Mappings and Bregman-Moreau Envelopes under Relative Prox-Regularity,**  

[J2] B. Haefner, S. Peng, A. Verma, Y. Queau and D. Cremers,  
**Photometric Depth Super-Resolution,**  

[J3] V. Golkov, A. Becker, D. T. Plop, D. 38;268uturilo, N. Davoudi, J. Mendenhall, R. Moretti, J. Meiler and D. Cremers,  
**Deep Learning for Virtual Screening: Five Reasons to Use ROC Cost Functions,**  

**Visual-Inertial Mapping with Non-Linear Factor Recovery,**  

[J5] L. von Stumberg, P. Wenzel, Q. Khan and D. Cremers,  
**GN-Net: The Gauss-Newton Loss for Multi-Weather Relocalization,**  

[J6] C. Sommer, Y. Sun, L. J. Guibas, D. Cremers and T. Birdal,  
**From Planes to Corners: Multi-Purpose Primitive Detection in Unorganized 3D Point Clouds,**  

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[J8] G Fabbro, V Golkov, T Kemp and D Cremers,  
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[J19] N. Yang, R. Wang, X. Gao and D. Cremers,
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[J20] Y. Queau, B. Durix, T. Wu, D. Cremers, F. Lauze and J.-D. Durou,
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[J97] D. Cremers, F. Tischhäuser, J. Weickert and C. Schnörr,
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[BC1] M. Vestner, E. Rodola, T. Windheuser, RBS. Bulo and D. Cremers,
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[C1] V. Golkov, M. J. Skwark, A. Mirchev, G. Dikov, A. R. Geanes, J. Mendenhall, J. Meiler and D. Cremers,  
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[C3] R. Wang, N. Yang, J. Stueckler and D. Cremers,  
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[C4] M. Eisenberger, Z. Lähner and D. Cremers,  
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[C72] M. Slavcheva, M. Baust, D. Cremers and S. Ilic,
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metry Optimization with Spatially-Varying Lighting,
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[C86] T. Möllenhoff and D. Cremers,
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A Variational Approach to Shape-from-shading Under Natural Illumination,
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[C90] N. Mayer, E. Ilg, P. Háusser, P. Fischer, D. Cremers, A. Dosovitskiy and T. Brox,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow,
and Scene Flow Estimation,
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[C91] V. Golkov, T. Sprenger, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann and D. Cremers,
Model-Free Novelty-Based Diffusion MRI,
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Protein Contact Prediction from Amino Acid Co-Evolution Using Convolutio-
nal Networks for Graph-Valued Images,
Annual Conference on Neural Information Processing Systems (NIPS), Barcelona, Spain,
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[C93] Z. Lähner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,
Efficient Globally Optimal 2D-to-3D Deformable Shape Matching,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), May 2016.
Author: D. Cremers

List of Publications

[C94] V. Usenko, J. Engel, J. Stueckler and D. Cremers,
Direct Visual-Inertial Odometry with Stereo Cameras,

[C95] A. Narr, R. Triebel and D. Cremers,
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,

SHREC’16: Matching of Deformable Shapes with Topological Noise,
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[C97] L. Cosmo, E. Rodola, M. M. Bronstein, A. Torsello, D. Cremers and Y. Sahillioglu,
SHREC’16: Partial Matching of Deformable Shapes,
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[C98] 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.

[C99] L. Ma, C. Kerl, J. Stueckler and D. Cremers,
CPA-SLAM: Consistent Plane-Model Alignment for Direct RGB-D SLAM,

[C100] J. Engel, V. Usenko and D. Cremers,
A Photometrically Calibrated Benchmark For Monocular Visual Odometry,

[C101] J. Engel, V. Koltun and D. Cremers,
Direct Sparse Odometry,

[C102] 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.

[C103] D. Bender, D. Cremers and W. Koch,
A position free boresight calibration for INS-camera systems,

[C104] I. Chiotellis, R. Triebel, T. Windheuser and D. Cremers,
Non-Rigid 3D Shape Retrieval via Large Margin Nearest Neighbor Embedding,
*European Conference on Computer Vision (ECCV)*, October 2016.

[C105] T. Windheuser and D. Cremers,
A Convex Solution to Spatially-Regularized Correspondence Problems,
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q-Space Deep Learning for Twelve-Fold Shorter and Model-Free Diffusion MRI Scans, 
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[C118] A. Dosovitskiy, P. Fischer, E. Ilg, P. Haeusser, C. Hazirbas, V. Golkov, P. van der Smagt, D. Cremers and T. Brox, 
FlowNet: Learning Optical Flow with Convolutional Networks, 
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SPENCER: A Socially Aware Service Robot for Passenger Guidance and Help in Busy Airports, 

[C120] J. Engel, J. Stueckler and D. Cremers, 
Large-Scale Direct SLAM with Stereo Cameras, 

[C121] D. Caruso, J. Engel and D. Cremers, 
Large-Scale Direct SLAM for Omnidirectional Cameras, 

[C122] Y. Tao, R. Triebel and D. Cremers, 
Semi-supervised Online Learning for Efficient Classification of Objects in 3D Data Streams, 

[C123] R. Maier, J. Stueckler and D. Cremers, 
Super-Resolution Keyframe Fusion for 3D Modeling with High-Quality Textures, 
International Conference on 3D Vision (3DV), October 2015.

[C124] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Reconstructing Street-Scenes in Real-Time From a Driving Car, 

[C125] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers, 
Motion Cooperation: Smooth Piece-Wise Rigid Scene Flow from RGB-D Images, 

[C126] E. Rodola, M. Moeller and D. Cremers, 
Point-wise Map Recovery and Refinement from Functional Correspondence, 
Proceedings Vision, Modeling and Visualization (VMV), Aachen, Germany, 2015, Received the Best Paper Award.
Author: D. Cremers  
List of Publications

[C127] C. Kerl, J. Stueckler and D. Cremers,  
Dense Continuous-Time Tracking and Mapping with Rolling Shutter RGB-D Cameras,  
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C128] M. Souiai, M. R. Oswald, Y. Kee, J. Kim, M. Pollefeys and D. Cremers,  
Entropy Minimization for Convex Relaxation Approaches,  
*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

[C129] F. Stark, C. Hazirbas, R. Triebel and D. Cremers,  
CAPTCHA Recognition with Active Deep Learning,  
*GCPR Workshop on New Challenges in Neural Computation*, Aachen, Germany, 2015.

[C130] J. Stühmer, S. Nowozin, A. Fitzgibbon, R. Szeliski, T. Perry, S. Acharya, D. Cremers and J. Shotton,  
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*IEEE International Conference on Computer Vision (ICCV)*, Santiago, Chile, 2015.

Direct Reconstruction of the Average Diffusion Propagator with Simultaneous Compressed-Sensing-Accelerated Diffusion Spectrum Imaging and Image Denoising by Means of Total Generalized Variation Regularization,  

Semi-Joint Reconstruction for Diffusion MRI Denoising Imposing Similarity of Edges in Similar Diffusion-Weighted Images,  

Improved Diffusion Kurtosis Imaging and Direct Propagator Estimation Using 6-D Compressed Sensing,  

[C134] F. Steinbruecker, J. Sturm and D. Cremers,  
Volumetric 3D Mapping in Real-Time on a CPU,  

[C135] E. Rodola, S. R Bulo, T. Windheuser, M. Vestner and D. Cremers,  
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*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2014.

[C137] H. Alvarez, L.M. Paz, J. Sturm and D. Cremers,  
Collision Avoidance for Quadrotors with a Monocular Camera,  
[C138] J. Engel, T. Schöps and D. Cremers, 
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*European Conference on Computer Vision (ECCV)*, September 2014, Oral Presentation.

[C139] T. Schöps, J. Engel and D. Cremers, 
Semi-Dense Visual Odometry for AR on a Smartphone, 

[C140] T. Windheuser, M. Vestner, E. Rodola, R. Triebel and D. Cremers, 
Optimal Intrinsic Descriptors for Non-Rigid Shape Analysis, 

[C141] M. Strobel, J. Diebold and D. Cremers, 
Flow and Color Inpainting for Video Completion, 
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, September 2014, Oral Presentation.

[C142] R. Maier, J. Sturm and D. Cremers, 
Submap-based Bundle Adjustment for 3D Reconstruction from RGB-D Data, 
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, September 2014, Oral Presentation.

[C143] T. Gurdan, M. R. Oswald, D. Gurdan and D. Cremers, 
Spatial and Temporal Interpolation of Multi-View Image Sequences, 
*German Conference on Pattern Recognition (GCPR)*, Münster, Germany, Vol. 36, Sep 2014.

[C144] M. R. Oswald and D. Cremers, 
Surface Normal Integration for Convex Space-time Multi-view Reconstruction, 

[C145] C. Nieuwenhuis, S. Hawe, M. Kleinsteuber and D. Cremers, 
Co-Sparse Textural Similarity for Interactive Segmentation, 

[C146] M. R. Oswald, J. Stühmer and D. Cremers, 
Generalized Connectivity Constraints for Spatio-temporal 3D Reconstruction, 

[C147] E. Strekalovskiy and D. Cremers, 
Real-Time Minimization of the Piecewise Smooth Mumford-Shah Functional, 

[C148] A. Kanezaki, E. Rodola, D. Cremers and T. Harada, 
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[C149] M. Andreux, E. Rodola, M. Aubry and D. Cremers, 
Anisotropic Laplace-Beltrami Operators for Shape Analysis, 
*Sixth Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NOR-DIA)*, 2014.
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INS-Camera Calibration without Ground Control Points, 
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Towards Illumination-invariant 3D Reconstruction using ToF RGB-D Cameras, 
International Conference on 3D Vision (3DV), 2014.

[C156] F. R. Schmidt, T. Windheuser, U. Schlickewei and D. Cremers, 
Dense Elastic 3D Shape Matching, 

[C157] M. Souiai, C. Nieuwenhuis, E. Strekalovskiy and D. Cremers, 
Convex Optimization for Scene Understanding, 
ICCV Workshop on Graphical Models for Scene Understanding, 2013.

[C158] J. Bergbauer, C. Nieuwenhuis, M. Souiai and D. Cremers, 
Proximity Priors for Variational Semantic Segmentation and Recognition, 
ICCV Workshop on Graphical Models for Scene Understanding, 2013.

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[C160] V. Golkov, T. Sprenger, M.I. Menzel, D. Cremers and J.I. Sperl, 
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European Society for Magnetic Resonance in Medicine and Biology (ESMRMB) Annual Meeting, 2013, Certificate of Merit Award.
[C161] V. Golkov, M.I. Menzel, T. Sprenger, A. Menini, D. Cremers and J.I. Sperl, 
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16th Annual Meeting of the German Chapter of the ISMRM, 2013, Oral Presentation.

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Corrected Joint SENSE Reconstruction, Low-Rank Constraints, and Compressed-Sensing-Accelerated Diffusion Spectrum Imaging in Denoising and Kurtosis Tensor Estimation, 
ISMRM Workshop on Diffusion as a Probe of Neural Tissue Microstructure, 2013.

Noise Reduction in Accelerated Diffusion Spectrum Imaging through Integration of SENSE Reconstruction into Joint Reconstruction in Combination with q-Space Compressed Sensing, 

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International Conference on Robotics and Automation (ICRA), May 2013, Best Vision Paper Award - Finalist.

[C165] E. Toeppe, C. Nieuwenhuis and D. Cremers, 
Volume Constraints for Single View Reconstruction, 
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[C166] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers, 
Real-Time Camera Tracking and 3D Reconstruction Using Signed Distance Functions, 

[C167] E. Bylow, J. Sturm, C. Kerl, F. Kahl and D. Cremers, 
Direct Camera Pose Tracking and Mapping With Signed Distance Functions, 
Demo Track of the RGB-D Workshop on Advanced Reasoning with Depth Cameras at the Robotics: Science and Systems Conference (RSS), June 2013.

[C168] M. Souiai, E. Strekalovskiy, C. Nieuwenhuis and D. Cremers, 
A Co-occurrence Prior for Continuous Multi-Label Optimization, 

[C169] F. Stangl, M. Souiai and D. Cremers, 
Performance Evaluation of Narrow Band Methods for Variational Stereo, 
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[C170] T. Möllenhoff, C. Nieuwenhuis, E. Toeppe and D. Cremers, 
Efficient Convex Optimization for Minimal Partition Problems with Volume Constraints, 
[C171] C. Kerl, J. Sturm and D. Cremers,  
Dense Visual SLAM for RGB-D Cameras,  

[C172] T. Naseer, J. Sturm and D. Cremers,  
FollowMe: Person Following and Gesture Recognition with a Quadrocopter,  

[C173] M. Klodt, J. Sturm and D. Cremers,  
Scale-Aware Object Tracking with Convex Shape Constraints on RGB-D Images,  
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[C174] J. Sturm, E. Bylow, F. Kahl and D. Cremers,  
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Unmanned Aerial Vehicle in Geomatics (UAV-g), Rostock, Germany, September 2013.

[C175] D. Bender, M. Schikora, J. Sturm and D. Cremers,  
Graph-based bundle adjustment for INS-camera calibration,  
Unmanned Aerial Vehicle in Geomatics (UAV-g), Rostock, Germany, September 2013,  
Best research paper award.

[C176] J. Sturm, E. Bylow, F. Kahl and D. Cremers,  
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[C177] E. Rodola, T. Harada, Y. Kuniyoshi and D. Cremers,  
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[C178] J. Engel, J. Sturm and D. Cremers,  
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[C179] E. Rodola, A. Torsello, T. Harada, Y. Kuniyoshi and D. Cremers,  
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[C180] J. Lellmann, E. Strekalovskiy, S. Koetter and D. Cremers,  
Total Variation Regularization for Functions with Values in a Manifold,  
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[C181] C. Nieuwenhuis, E. Strekalovskiy and D. Cremers,  
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[C182] J. Stühmer, P. Schröder and D. Cremers,
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*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, December 2013, Oral Presentation.

[C183] G. Kuschk and D. Cremers,
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[C184] M. R. Oswald and D. Cremers,
A Convex Relaxation Approach to Space Time Multi-view 3D Reconstruction,
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[C185] F. Steinbruecker, C. Kerl, J. Sturm and D. Cremers,
Large-Scale Multi-Resolution Surface Reconstruction from RGB-D Sequences,
*IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.

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Interactive Person Following and Gesture Recognition with a Flying Robot,
Proc. of the Assistance and Service Robotics Workshop (ASROB) at the IEEE. Int. Conf. on Intelligent Robots and Systems (IROS), Nov. 2013.

[C187] D. Cremers, E. Rodola and T. Windheuser,
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[C188] F. Endres, J. Hess, N. Engelhard, J. Sturm, D. Cremers and W. Burgard,
An Evaluation of the RGB-D SLAM System,

[C189] T. Ruehr, J. Sturm, D. Pangercic, M. Beetz and D. Cremers,
A Generalized Framework for Opening Doors and Drawers in Kitchen Environments,

[C190] M. Schikora, A. Gning, L. Mihaylova, D. Cremers, W. Koch and R. Streit,
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[C191] M. Schikora, A. Gning, L. Mihaylova, D. Cremers and W. Koch,
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*15th International Conference on Information Fusion (FUSION)*, Singapore, July 2012.

[C192] L. Zhang, J. Sturm, D. Cremers and D. Lee,
Real-Time Human Motion Tracking using Multiple Depth Cameras,
[C193] E. Strekalovskiy, C. Nieuwenhuis and D. Cremers,
Nonmetric Priors for Continuous Multilabel Optimization,

[C194] T. Windheuser, H. Ishikawa and D. Cremers,
Generalized Roof Duality for Multi-Label Optimization: Optimal Lower Bounds and Persistency,

[C195] T. Windheuser, H. Ishikawa and D. Cremers,
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[C199] J. Sturm, N. Engelhard, F. Endres, W. Burgard and D. Cremers,
A Benchmark for the Evaluation of RGB-D SLAM Systems,

[C200] J. Engel, J. Sturm and D. Cremers,
Accurate Figure Flying with a Quadrocopter Using Onboard Visual and Inertial Sensing,

[C201] J. Sturm, W. Burgard and D. Cremers,
Evaluating Egomotion and Structure-from-Motion Approaches Using the TUM RGB-D Benchmark,

[C202] N. Ufer, M. Souiai and D. Cremers,
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[C203] T. Windheuser, U. Schlickewei, F. R. Schmidt and D. Cremers,
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"Multiple Source Localization Based on Biased Bearings Using the Intensity Filter - Approach and Experimental Results,"
4th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing, San Juan, Puerto Rico, December 2011.

S. Madhogaria, M. Schikora, W. Koch and D. Cremers,
"Pixel-based Classification Method for Detecting Unhealthy Regions in Leaf Images,"
6th IEEE ISIF Workshop on Sensor Data Fusion: Trends, Solutions, Applications (SDF), Berlin, Germany, September 2011.

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14th International Conference on Information Fusion (FUSION), Chicago, IL, USA, July 2011.

M. Schikora, W. Koch and D. Cremers,
"Multi-object tracking via high accuracy optical flow and finite set statistics,"
International Conference on Acoustics, Speech and Signal Processing (ICASSP), Prag, Czech Republic, Mai 2011.

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

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"A Survey on Geometry Recovery from a Single Image with Focus on Curved Object Reconstruction,"

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"Probabilistic Classification of Disease Symptoms caused by Salmonella on Arabidopsis Plants,"
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"Multi-target multi-sensor localization and tracking using passive antenna and optical sensors on UAVs,"
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[C230] M. R. Oswald, E. Toeppe, K. Kolev and D. Cremers,
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[C231] F. R. Schmidt and D. Cremers,
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[C232] F. R. Schmidt, E. Toeppe and D. Cremers,
Efficient Planar Graph Cuts with Applications in Computer Vision,
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[C233] T. Pock, A. Chambolle, H. Bischof and D. Cremers,
A Convex Relaxation Approach for Computing Minimal Partitions,

[C234] A. Wedel, C. Rabe, A. Meissner, U. Franke and D. Cremers,
Detection and Segmentation of Independently Moving Objects from Dense Scene Flow,

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