2022

Journal Articles

[J1] C Tomani and D Cremers,
Challenger: Training with Attribution Maps,

[J2] L. von Stumberg and D. Cremers,
DM-VIO: Delayed Marginalization Visual-Inertial Odometry,

Deep Learning in Attosecond Metrology,
Optics Express, 30(9): 15669-15684, 2022, Editor’s Pick.

[J4] T Yenamandra, A Tewari, N Yang, F Bernard, C Theobalt and D Cremers,
HDSDF: Hybrid Directional and Signed Distance Functions for Fast Inverse Rendering,
2022.

Conference and Workshop Papers

[C1] M. Eisenberger, A. Toker, L. Leal-Taixe, F. Bernard and D. Cremers,
A Unified Framework for Implicit Sinkhorn Differentiation,
IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 2022.

[C2] J. Veraart and 100 coauthors,
A data-driven variability assessment of brain diffusion MRI preprocessing pipelines,

[C3] C Sommer, L Sang, D Schubert and D Cremers,
Gradient-SDF: A Semi-Implicit Surface Representation for 3D Reconstruction,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022.

[C4] Z Ye, T Yenamandra, F Bernard and D Cremers,
Joint Deep Multi-Graph Matching and 3D Geometry Learning from Inhomogeneous 2D Image Collections,
AAAI, 2022.

[C5] D Muhle, L Koestler, N Demmel, F Bernard and D Cremers,
The Probabilistic Normal Epipolar Constraint for Frame-To-Frame Rotation Optimization under Uncertain Feature Positions,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022.

[C6] S Weber, N Demmel, T Chon Chan and D Cremers,
Power Bundle Adjustment for Large-Scale 3D Reconstruction,
submission, 2022.
Author: Cremers—coauthors  

List of Publications

[C7] F Müller, Q Khan and D Cremers,  
*Lateral Ego-Vehicle Control Without Supervision Using Point Clouds*,  

[C8] L Hang, Q Khan, V Tresp and D Cremers,  
*Biologically Inspired Neural Path Finding*,  
*Brain Informatics (Accepted)*, Springer, 2022.

[C9] D Das, Q Khan and D Cremers,  
*Ventriloquist-Net: Leveraging Speech Cues for Emotive Talking Head Generation*,  
*IEEE International Conference on Image Processing (Accepted)*, 2022.

[C10] L Koestler, D Grittner, M Moeller, D Cremers and Z Lähner,  
*Intrinsic Neural Fields: Learning Functions on Manifolds*,  
*European Conference on Computer Vision (ECCV)*, 2022.

2021  
Journal Articles

[J1] H. Bauermeister, E. Laude, T. Moellenhoff, M. Moeller and D. Cremers,  
*Lifting the convex conjugate in Lagrangian relaxations: A Tractable Approach for Continuous Markov Random Fields*,  

[J2] P. Müller, V. Golkov, V. Tomassini and D. Cremers,  
*Rotation-Equivariant Deep Learning for Diffusion MRI*,  

[J3] C Tomani, D Cremers and F Buettner,  
*Parameterized Temperature Scaling for Boosting the Expressive Power in Post-Hoc Uncertainty Calibration*,  

[J4] J. Chui, S. Klenk and D. Cremers,  
*Event-Based Feature Tracking in Continuous Time with Sliding Window Optimization*,  

[J5] M. Mozes, M. Schmitt, V. Golkov, H. Schütze and D. Cremers,  
*Scene Graph Generation for Better Image Captioning?*,  

Conference and Workshop Papers

[C1] B. Haefner, S. Green, A. Oursland, D. Andersen, M. Goesele, D. Cremers, R. Newcombe and T. Whelan,  
* Recovering Real-world Reflectance Properties and Shading from HDR Imagery*,  

[C2] T Frerix, D Kochkov, J Smith, D Cremers, M Brenner and S Hoyer,  
*Variational Data Assimilation with a Learned Inverse Observation Operator*,  
[C3] M. Eisenberger, D. Novotny, G. Kerchenbaum, P. Labatut, N. Neverova, D. Cremers and A. Vedaldi, 
NeuroMorph: Unsupervised Shape Interpolation and Correspondence in One Go, 

[C4] M. C. Mukkamala, F. Westerkamp, E. Laude, D. Cremers and P. Ochs, 
Bregman Proximal Gradient Algorithms for Deep Matrix Factorization, 
Elmoataz, Abderrahim, Fadili, Jalal, Quéau, Yvain, Rabin, Julien, Simon and Loïc(Eds.), 

[C5] Z. Ye, B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers, 
Sublabel-Accurate Multilabeling Meets Product Label Spaces, 
German Conference on Pattern Recognition (GCPR), 2021.

[C6] F. Wimbauer, N. Yang, L. von Stumberg, N. Zeller and D. Cremers, 
MonoRec: Semi-Supervised Dense Reconstruction in Dynamic Environments from a Single Moving Camera, 

[C7] T Yenamandra, A Tewari, F Bernard, HP Seidel, M Elgharib, D Cremers and C Theobalt, 
i3DMM: Deep Implicit 3D Morphable Model of Human Heads, 

[C8] M Gao, Z Lähner, J Thunberg, D Cremers and F Bernard, 
Isometric Multi-Shape Matching, 

[C9] M Naeyaert, V Golkov, D Cremers, J Sijbers and M Verhoye, 
Faster and better HARDI using FSE and holistic reconstruction, 

[C10] P. Müller, V. Golkov, V. Tomassini and D. Cremers, 
Rotation-Equivariant Deep Learning for Diffusion MRI (short version), 

[C11] Q. Khan, P. Wenzel and D. Cremers, 
Self-Supervised Steering Angle Prediction for Vehicle Control Using Visual Odometry, 
International Conference on Artificial Intelligence and Statistics (AISTATS), 2021.

[C12] M. Gladkova, R. Wang, N. Zeller and D. Cremers, 
Tight Integration of Feature-based Relocalization in Monocular Direct Visual Odometry, 
Author: Cremers—coauthors

List of Publications

[C13] Y. Xia, Y. Xu, S. Li, R. Wang, J. Du, D. Cremers and U. Stilla,
SOE-Net: A Self-Attention and Orientation Encoding Network for Point Cloud based Place Recognition,

[C14] P. Wenzel, T. Schön, L. Leal-Taixe and D. Cremers,
Vision-Based Mobile Robotics Obstacle Avoidance With Deep Reinforcement Learning,

[C15] N Demmel, C Sommer, D Cremers and V Usenko,
Square Root Bundle Adjustment for Large-Scale Reconstruction,

[C16] C Tomani, S Gruber, ME Erdem, D Cremers and F Buettner,
Post-hoc Uncertainty Calibration for Domain Drift Scenarios,

[C17] N Demmel, D Schubert, C Sommer, D Cremers and V Usenko,
Square Root Marginalization for Sliding-Window Bundle Adjustment,
IEEE International Conference on Computer Vision (ICCV), 2021.

[C18] MW Wudenka, MG Müller, N Demmel, A Wedler, R Triebel, D Cremers and W Stuerzl,
Towards Robust Monocular Visual Odometry for Flying Robots on Planetary Missions,

[C19] S Klenk, J Chui, N Demmel and D Cremers,
TUM-VIE: The TUM Stereo Visual-Inertial Event Dataset,

[C20] L Koestler, N Yang, N Zeller and D Cremers,
TANDEM: Tracking and Dense Mapping in Real-time using Deep Multi-view Stereo,
Conference on Robot Learning (CoRL), 2021, 3DV’21 Best Demo Award.

[C21] S Weber, N Demmel and D Cremers,
Multidirectional Conjugate Gradients for Scalable Bundle Adjustment,
German Conference on Pattern Recognition (GCPR), 2021, Oral Presentation.

2020

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,
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,  

Accelerating in vivo fast spin echo high angular resolution diffusion imaging with an isotropic resolution in mice through compressed sensing,  

[J8] G Fabbro, V Golkov, T Kemp and D Cremers,  
Speech Synthesis and Control Using Differentiable DSP,  

[J9] I Chiotellis and D Cremers,  
Neural Online Graph Exploration,  

Conference and Workshop Papers

[C1] V. Golkov, M. J. Skwark, A. Mirchev, G. Dikov, A. R. Geanes, J. Mendenhall, J. Meiler and D. Cremers,  
3D Deep Learning for Biological Function Prediction from Physical Fields,  

[C2] L. Sang, B. Haefner and D. Cremers,  
Inferring Super-Resolution Depth from a Moving Light-Source Enhanced RGB-D Sensor: A Variational Approach,  
IEEE Winter Conference on Applications of Computer Vision (WACV), Colorado, USA, March 2020, Spotlight Presentation.

[C3] T Frerix, M Niesner and D Cremers,  
Homogeneous Linear Inequality Constraints for Neural Network Activations,  


[C15] L. Koestler, N. Yang, R. Wang and D. Cremers,  
Learning Monocular 3D Vehicle Detection without 3D Bounding Box Labels,  

[C16] P. Wenzel, R. Wang, N. Yang, Q. Cheng, Q. Khan, L. von Stumberg, N. Zeller and D. Cremers,  
4Seasons: A Cross-Season Dataset for Multi-Weather SLAM in Autonomous Driving,  

[C17] B Holzschuh, Z Lähner and D Cremers,  
Simulated Annealing for 3D Shape Correspondence,  

[C18] M Aygün, Z Lähner and D Cremers,  
Unsupervised Dense Shape Correspondence using Heat Kernels,  

[C19] N Demmel, M Gao, E Laude, T Wu and D Cremers,  
Distributed Photometric Bundle Adjustment,  

[C20] L. von Stumberg, P. Wenzel, N. Yang and D. Cremers,  
LM-Reloc: Levenberg-Marquardt Based Direct Visual Relocalization,  

2019

Journal Articles

Video Object Segmentation without Temporal Information,  

[J2] H Tjaden, U Schwanecke, E Schömer and D Cremers,  
A Region-based Gauss-Newton Approach to Real-Time Monocular Multiple Object Tracking,  

A Non-invasive 3D Body Scanner and Software Tool towards Analysis of Scoliosis,  

[J4] F. Pasa, V. Golkov, F. Pfeiffer, D. Cremers and D. Pfeiffer,  
Efficient Deep Network Architectures for Fast Chest X-Ray Tuberculosis Screening and Visualization,  

[J5] J. Schuchardt, V. Golkov and D. Cremers,  
Learning to Evolve,  

Conference and Workshop Papers


[C10] T. Möllenhoff and D. Cremers,
Flat Metric Minimization with Applications in Generative Modeling,

[C11] Q. Khan, P. Wenzel, D. Cremers and L. Leal-Taixe,
Towards Generalizing Sensorimotor Control Across Weather Conditions,

[C12] M. Moeller, T. Möllenhoff and D. Cremers,
Controlling Neural Networks via Energy Dissipation,
International Conference on Computer Vision (ICCV), Seoul, South Korea, 10 2019.

[C13] E. Jung, N. Yang and D. Cremers,
Multi-Frame GAN: Image Enhancement for Stereo Visual Odometry in Low Light,
Conference on Robot Learning (CoRL), 2019, Full Oral Presentation.

[C14] S. Weiss, R. Maier, R. Westermann, D. Cremers and N. Thuerey,
Sparse Surface Constraints for Combining Physics-based Elasticity Simulation and Correspondence-Free Object Reconstruction,

[C15] P. Brechet, T. Wu, T. Möllenhoff and D. Cremers,
Informative GANs via Structured Regularization of Optimal Transport,

2018
Journal Articles

[J1] J. Engel, V. Koltun and D. Cremers,
Direct Sparse Odometry,

[J2] N. Yang, R. Wang, X. Gao and D. Cremers,
Challenges in Monocular Visual Odometry: Photometric Calibration, Motion Bias and Rolling Shutter Effect,

[J3] Y. Queau, B. Durix, T. Wu, D. Cremers, F. Lauze and J.-D. Durou,
LED-based Photometric Stereo: Modeling, Calibration and Numerical Solution,

[J4] B Bringmann, D Cremers and F Krahmer,
The homotopy method revisited: Computing solution paths of L1-regularized problems,

[J5] J. Melou, Y. Queau, J.-D. Durou, F. Castan and D. Cremers,
Variational Reflectance Estimation from Multi-view Images,
Author: Cremers—coauthors

List of Publications

[J6] P. Bergmann, R. Wang and D. Cremers,
Online Photometric Calibration of Auto Exposure Video for Realtime Visual Odometry and SLAM,

[J7] E. Aljalbout, V. Golkov, Y. Siddiqui, M. Strobel and D. Cremers,
Clustering with Deep Learning: Taxonomy and New Methods,

[J8] N Mayer, E Ilg, P Fischer, C Hazirbas, D Cremers, A Dosovitskiy and T Brox,
What Makes Good Synthetic Training Data for Learning Disparity and Optical Flow Estimation?,

Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras,

[J10] L. Ma, J. Stueckler, T. Wu and D. Cremers,
Detailed Dense Inference with Convolutional Neural Networks via Discrete Wavelet Transform,
Aug 2018.

Conference and Workshop Papers

[C1] R. Henschel, L. Leal-Taixe, D. Cremers and B. Rosenhahn,
Fusion of Head and Full-Body Detectors for Multi-Object Tracking,

[C2] C. Sommer and D. Cremers,
Joint Representation of Primitive and Non-primitive Objects for 3D Vision,

[C3] C. Hazirbas, S. G. Soyer, M. C. Staab, L. Leal-Taixe and D. Cremers,
Deep Depth From Focus,
Asian Conference on Computer Vision (ACCV), December 2018.

[C4] B. Haefner, Y. Queau, T. Möllenhoff and D. Cremers,
Fight ill-posedness with ill-posedness: Single-shot variational depth super-resolution from shading,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018, Spotlight Presentation.

Discrete-Continuous ADMM for Transductive Inference in Higher-Order MRFs,
*IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
[C6] C Domokos, FR. Schmidt and D Cremers,
MRF Optimization with Separable Convex Prior on Partially Ordered Labels,

[C7] E. Laude, T. Wu and D. Cremers,
A Nonconvex Proximal Splitting Algorithm under Moreau-Yosida Regularization,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

[C8] T. Möllenhoff, Z. Ye, T. Wu and D. Cremers,
Combinatorial Preconditioners for Proximal Algorithms on Graphs,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2018.

[C9] R Scona, M Jaimez, YR. Petillot, M Fallon and D Cremers,
StaticFusion: Background Reconstruction for Dense RGB-D SLAM in Dynamic Environments,

q-Space Novelty Detection in Short Diffusion MRI Scans of Multiple Sclerosis,

q-Space Deep Learning for Alzheimer’s Disease Diagnosis: Global Prediction and Weakly-Supervised Localization,

[C12] B. T. Do, V. Golkov, G. E. Gürel and D. Cremers,
Precursor microRNA Identification Using Deep Convolutional Neural Networks,

[C13] P. Haeusser, J. Plapp, V. Golkov, E. Aljalbout and D. Cremers,
Associative Deep Clustering - Training a Classification Network with no Labels,
Proc. of the German Conference on Pattern Recognition (GCPR), October 2018.

[C14] T. Frerix, T. Möllenhoff, M. Moeller and D. Cremers,
Proximal Backpropagation,

[C15] L. von Stumberg, V. Usenko and D. Cremers,
Direct Sparse Visual-Inertial Odometry using Dynamic Marginalization,
International Conference on Robotics and Automation (ICRA), May 2018.
Author: Cremers—coauthors

List of Publications

[C16] D. Schubert, T. Goll, N. Demmel, V. Usenko, J. Stueckler and D. Cremers,
The TUM VI Benchmark for Evaluating Visual-Inertial Odometry,

[C17] X. Gao, R. Wang, N. Demmel and D. Cremers,
LDSO: Direct Sparse Odometry with Loop Closure,

[C18] Z. Lähner, D. Cremers and T. Tung,
DeepWrinkles: Accurate and Realistic Clothing Modeling,
European Conference on Computer Vision (ECCV), September 2018, Oral Presentation.

[C19] N. Yang, R. Wang, J. Stueckler and D. Cremers,
Deep Virtual Stereo Odometry: Leveraging Deep Depth Prediction for Monocular Direct Sparse Odometry,
European Conference on Computer Vision (ECCV), September 2018, Oral Presentation.

[C20] D. Schubert, N. Demmel, V. Usenko, J. Stueckler and D. Cremers,
Direct Sparse Odometry With Rolling Shutter,
European Conference on Computer Vision (ECCV), September 2018, Oral Presentation.

[C21] V. Usenko, N. Demmel and D. Cremers,
The Double Sphere Camera Model,

[C22] I. Chiotellis, F. Zimmermann, D. Cremers and R. Triebel,
Incremental Semi-Supervised Learning from Streams for Object Classification,

[C23] V. Estellers, F. Schmidt and D. Cremers,
Robust Fitting of Subdivision Surfaces for Smooth Shape Analysis,
Proc. of the Int. Conference on 3D Vision (3DV), September 2018, Received the Best Paper Award at 3DV 2018.

[C24] P. Wenzel, Q. Khan, D. Cremers and L. Leal-Taixe,
Modular Vehicle Control for Transferring Semantic Information Between Weather Conditions Using GANs,
Conference on Robot Learning (CoRL), 2018.

2017

Journal Articles

[J1] G. Kuschk, P. d’Angelo, D. Gaudrie, P. Reinartz and D. Cremers,
Spatially Regularized Fusion of Multiresolution Digital Surface Models,

[J2] D. Cremers, L. Leal-Taixe and R. Vidal,
Deep Learning for Computer Vision (Dagstuhl Seminar 17391),
Dagstuhl Reports, 7(9): 109-125, 2017.
[J3] Y. Kee, Y. Lee, M. Souiai, D. Cremers and J. Kim, 
Sequential Convex Programming for Computing Information-Theoretic Mini-
mal Partitions: Nonconvex Nonsmooth Optimization,

[J4] D Cremers, 
Computer Vision für 3-D-Rekonstruktion - Vom Nischenthema zum Main-
stream,

[J5] E. Rodola, L. Cosmo, M. M. Bronstein, A. Torsello and D. Cremers, 
Partial Functional Correspondence,

[J6] L. Cosmo, E. Rodola, A. Albarelli, F. Memoli and D. Cremers, 
Consistent Partial Matching of Shape Collections via Sparse Modeling,

Genetic defects in s-spectrin and tau sensitize C. elegans axons to movement-
induced damage via torque-tension coupling,

Tau Like Proteins Reduce Torque Generation in Microtubule Bundles,

[J9] E Rodola, M Möller and D Cremers, 
Regularized Pointwise Map Recovery from Functional Correspondence,

[J10] J. Kukacka, V. Golkov and D. Cremers, 
Regularization for Deep Learning: A Taxonomy,

Conference and Workshop Papers

[C1] M. Benning, M. Möller, R. Z. Nossek, M. Burger, D. Cremers and G. Gilboa, 
Nonlinear Spectral Image Fusion,

[C2] D. Bender, W. Koch and D. Cremers, 
Map-based drone homing using shortcuts,

[C3] G. Kuschik, A. Bozic and D. Cremers, 
Real-time variational stereo reconstruction with applications to large-scale dense SLAM,
[C4] M. Jaimez, C. Kerl, J. Gonzalez-Jimenez and D. Cremers,
Fast Odometry and Scene Flow from RGB-D Cameras based on Geometric Clustering,
*Proc. of the IEEE Int. Conf. on Robotics and Automation (ICRA)*, 2017.

[C5] M. Jaimez, T. J. Cashman, A. Fitzgibbon, J. Gonzalez-Jimenez and D. Cremers,
An Efficient Background Term for 3D Reconstruction and Tracking with Smooth Subdivision Surface Models,

[C6] L. Ma, J. Stueckler, C. Kerl and D. Cremers,
Multi-View Deep Learning for Consistent Semantic Mapping with RGB-D Cameras,

[C7] M. Vestner, R. Litman, E. Rodola, A. Bronstein and D. Cremers,
Product Manifold Filter: Non-Rigid Shape Correspondence via Kernel Density Estimation in the Product Space,

[C8] M. Dzitsiuk, J. Sturm, R. Maier, L. Ma and D. Cremers,
De-noising, Stabilizing and Completing 3D Reconstructions On-the-go using Plane Priors,

[C9] L. von Stumberg, V. Usenko, J. Engel, J. Stueckler and D. Cremers,
From Monocular SLAM to Autonomous Drone Exploration,

[C10] F. Walch, C. Hazirbas, L. Leal-Taixe, T. Sattler, S. Hilsenbeck and D. Cremers,
Image-based localization using LSTMs for structured feature correlation,

T. Goldberg, L. Richter, J. Reeb, B. Rost, F. Pfeiffer, D. Cremers, F. Nüsslin and S.E. Combs,
Establishment of an interdisciplinary workflow of machine learning-based Radiomics in sarcoma patients,

[C12] Y. Queau, M. Pizenberg, J.-D. Durou and D. Cremers,
Microgeometry capture and RGB albedo estimation by photometric stereo without demosaicing,

[C13] P. Haeusser, A. Mordvintsev and D. Cremers,
Learning by Association - A versatile semi-supervised training method for neural networks,

[C14] M. Slavcheva, M. Baust, D. Cremers and S. Ilic,
KillingFusion: Non-rigid 3D Reconstruction without Correspondences,
[C15] V. Usenko, L. von Stumberg, A. Pangercic and D. Cremers,
Real-Time Trajectory Replanning for MAVs using Uniform B-splines and a
3D Circular Buffer,
International Conference on Intelligent Robots and Systems (IROS), Vancouver, Canada,
Sep 2017, Best Paper Award - Finalist ()

[C16] Y. Queau, T. Wu, F. Lauze, J.-D. Durou and D. Cremers,
A Non-Convex Variational Approach to Photometric Stereo under Inaccurate Lighting,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Honolulu, USA,
2017.

[C17] T. Meinhardt, M. Moeller, C. Hazirbas and D. Cremers,
Learning Proximal Operators: Using Denoising Networks for Regularizing Inverse Imaging Problems,

One-Shot Video Object Segmentation,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Honolulu, USA,
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[C19] Y. Queau, J. Melou, J.-D. Durou and D. Cremers,
Dense Multi-view 3D-reconstruction Without Dense Correspondences,

[C20] P. Haeusser, T. Frerix, A. Mordvintsev and D. Cremers,
Associative Domain Adaptation,

[C21] Y. Queau, M. Pizenberg, D. Cremers and J.-D. Durou,
Stereophotometrie microscopique sans demosaicing,
GRETSI, Juan-les-Pins, USA, 2017.

Bronstein, M. M. Bronstein, R. Kimmel and D. Cremers,
Efficient Deformable Shape Correspondence via Kernel Matching,
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tion.

[C23] R. Maier, R. Schaller and D. Cremers,
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction,
British Machine Vision Conference (BMVC), London, United Kingdom, September 2017.

[C24] J. Geiping, H. Dirks and D. Cremers,
Multiframe Motion Coupling for Video Super Resolution,
Marcello Pelillo and Edwin R. Hancock(Eds.), Energy Minimization Methods in Computer Vision and Pattern Recognition - 11th International Conference, EMMCVPR 2017,
[C25] R. Maier, K. Kim, D. Cremers, J. Kautz and M. Niessner, 
Intrinsic3D: High-Quality 3D Reconstruction by Joint Appearance and Geo-
metry Optimization with Spatially-Varying Lighting, 

[C26] S. Peng, B. Haefner, Y. Queau and D. Cremers, 
Depth Super-Resolution Meets Uncalibrated Photometric Stereo, 
*International Conference on Computer Vision Workshops (ICCVW)*, 2017, Oral Pre-
sentation at ICCV Workshop on Color and Photometry in Computer Vision.

[C27] R. Wang, M. Schwörer and D. Cremers, 
Stereo DSO: Large-Scale Direct Sparse Visual Odometry with Stereo Cameras, 

[C28] T. Möllenhoff and D. Cremers, 
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems, 

[C29] Y. Queau, J. Melou, F. Castan, D. Cremers and J.-D. Durou, 
A Variational Approach to Shape-from-shading Under Natural Illumination, 
Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCV-
PR), 2017.

[C30] F. Bernard, F. R. Schmidt, J. Thunberg and D. Cremers, 
A Combinatorial Solution to Non-Rigid 3D Shape-to-Image Matching, 

2016 
Journal Articles

[J1] J. Diebold, C. Nieuwenhuis and D. Cremers, 
Midrange Geometric Interactions for Semantic Segmentation, 

[J2] J. Duran, M. Möller, C. Sbert and D. Cremers, 
Collaborative Total Variation: A General Framework for Vectorial TV Models, 

[J3] M. Burger, G. Gilboa, M. Möller, L. Eckardt and D. Cremers, 
Spectral Decompositions Using One-Homogeneous Functionals, 

Anisotropic Diffusion Descriptors, 

[J5] V. Golkov, A. Dosovitskiy, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann, T. Brox and 
D. Cremers, 
q-Space Deep Learning: Twelve-Fold Shorter and Model-Free Diffusion MRI 
Scans, 
Author: Cremers—coauthors

List of Publications

[J6] O. Litany, E. Rodola, A. M. Bronstein, M. M. Bronstein and D. Cremers,
Non-Rigid Puzzles,

[J7] M. Vestner, R. Litman, A. Bronstein, E. Rodola and D. Cremers,
Bayesian Inference of Bijective Non-Rigid Shape Correspondence,

Book Chapters

[BC1] M. Vestner, E. Rodola, T. Windheuser, RBS. Bulo and D. Cremers,
Applying Random Forests to the Problem of Dense Non-rigid Shape Correspondence,

Conference and Workshop Papers

[C1] L. Cosmo, A. Albarelli, F. Bergamasco, A. Torsello, E. Rodola and D. Cremers,
A game-theoretical approach for joint matching of multiple feature throughout unordered images,

[C2] N. Mayer, E. Ilg, P. Häusser, P. Fischer, D. Cremers, A. Dosovitskiy and T. Brox,
A Large Dataset to Train Convolutional Networks for Disparity, Optical Flow, and Scene Flow Estimation,

[C3] V. Golkov, T. Sprenger, J. I. Sperl, M. I. Menzel, M. Czisch, P. Sämann and D. Cremers,
Model-Free Novelty-Based Diffusion MRI,
IEEE International Symposium on Biomedical Imaging (ISBI), Prague, Czech Republic, apr 2016.

[C4] V. Golkov, M. J. Skwark, A. Golkov, A. Dosovitskiy, T. Brox, J. Meiler and D. Cremers,
Protein Contact Prediction from Amino Acid Co-Evolution Using Convolutional Networks for Graph-Valued Images,
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[C5] Z. Lähner, E. Rodola, F. R. Schmidt, M. M. Bronstein and D. Cremers,
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[C6] V. Usenko, J. Engel, J. Stueckler and D. Cremers,
Direct Visual-Inertial Odometry with Stereo Cameras,
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[C7] A. Narr, R. Triebel and D. Cremers,
Stream-based Active Learning for Efficient and Adaptive Classification of 3D Objects,
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SHREC’16: Matching of Deformable Shapes with Topological Noise,
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[C10] T. Möllenhoff, E. Laude, M. Moeller, J. Lellmann and D. Cremers,
Sublabel-Accurate Relaxation of Nonconvex Energies,
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[C11] L. Ma, C. Kerl, J. Stueckler and D. Cremers,
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[C14] E. Laude, T. Möllenhoff, M. Moeller, J. Lellmann and D. Cremers,
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[C15] D. Bender, D. Cremers and W. Koch,
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[C16] I. Chiotellis, R. Triebel, T. Windheuser and D. Cremers,
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[C18] S. Sharifzadeh, I. Chiotellis, R. Triebel and D. Cremers,
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[J8] M. Möller, M. Benning, C. Schönlieb and D. Cremers,
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Book Chapters

[BC1] D. Cremers,
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[BC2] V. Golkov, J. M. Portegies, A. Golkov, R. Duits and D. Cremers,
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[C4] T. Mollenhoff, E. Strekalovskiy, M. Möller and D. Cremers,
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[C16] R. Maier, J. Stueckler and D. Cremers,
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[C18] M. Jaimez, M. Souiai, J. Stueckler, J. Gonzalez-Jimenez and D. Cremers,
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Entropy Minimization for Convex Relaxation Approaches,
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Author: Cremers—coauthors

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[C12] R. Maier, J. Sturm and D. Cremers,
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Spatial and Temporal Interpolation of Multi-View Image Sequences,
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[C14] M. R. Oswald and D. Cremers, 
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[C15] C. Nieuwenhuis, S. Hawe, M. Kleinsteuber and D. Cremers, 
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[C19] M. Andreux, E. Rodola, M. Aubry and D. Cremers, 
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[C22] S. Debnath, S. S. Baishya, R. Triebel, V. Dutt and D. Cremers, 
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[C2] T. Ruehr, J. Sturm, D. Pangercic, M. Beetz and D. Cremers,
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[C15] N. Ufer, M. Souiai and D. Cremers, 
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[J2] D. Cremers and K. Kolev, 
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[J5] A. Sellent, M. Eisemann, B. Goldluecke, D. Cremers and M. Magnor, 
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[BC1] D. Cremers, T. Pock, K. Kolev and A. Chambolle, 
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