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.
[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 Gene-
eration,
*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 Optim-
ization,

[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 Image-
ry,

[C2] T Frerix, D Kochkov, J Smith, D Cremers, M Brenner and S Hoyer,
Variational Data Assimilation with a Learned Inverse Observation Operator,
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, 
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.

[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, 
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, Oral Pre-
sentation.

[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, 
List of Publications


Conference and Workshop Papers


[C4] R. Wang, N. Yang, J. Stueckler and D. Cremers, 
DirectShape: Photometric Alignment of Shape Priors for Visual Vehicle Pose and Shape Estimation, 

[C5] M. Eisenberger, Z. Lähner and D. Cremers, 
Smooth Shells: Multi-Scale Shape Registration with Functional Maps, 
IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), 2020, Oral Presentation.

[C6] M. Eisenberger and D. Cremers, 
Hamiltonian Dynamics for Real-World Shape Interpolation, 
European Conference on Computer Vision (ECCV), 2020, Spotlight Presentation.

[C7] M. Eisenberger, A. Toker, L. Leal-Taixe and D. Cremers, 
Deep Shells: Unsupervised Shape Correspondence with Optimal Transport, 

[C8] S. Weiss, R. Maier, D. Cremers, R. Westermann and N. Thürey, 
Correspondence-Free Material Reconstruction using Sparse Surface Constraints, 

[C9] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers, 
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups, 

[C10] N. Yang, L. von Stumberg, R. Wang and D. Cremers, 
D3VO: Deep Depth, Deep Pose and Deep Uncertainty for Monocular Visual Odometry, 

[C11] Z. Ye, T. Möllenhoff, T. Wu and D. Cremers, 
Optimization of Graph Total Variation via Active-Set-based Combinatorial Reconditioning, 
International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.

[C12] J. Liu, I Chiotellis, R Triebel and D Cremers, 
Effective Version Space Reduction for Convolutional Neural Networks, 
European Conference on Machine Learning and Data Mining (ECML-PKDD), 2020.

[C13] J. Du, R. Wang and D. Cremers, 
DH3D: Deep Hierarchical 3D Descriptors for Robust Large-Scale 6DoF Relocalization, 
European Conference on Computer Vision (ECCV), 2020, Spotlight Presentation.

[C14] C. Sommer, Y. Sun, E. Bylow and D. Cremers, 
PrimiTect: Fast Continuous Hough Voting for Primitive Detection, 


2019 Journal Articles


[J6] L. Della Libera, V. Golkov, Y. Zhu, A. Mielke and D. Cremers,
Deep Learning for 2D and 3D Rotatable Data: An Overview of Methods,

Conference and Workshop Papers

Shape Correspondence with Isometric and Non-Isometric Deformations,
Silvia Biasotti, Guillaume Lavoué and Remco C. Veltkamp(Eds.), 12th Eurographics Workshop on 3D Object Retrieval, 3DOR@Eurographics 2019, Genoa, Italy, May 5-6, 2019, Eurographics Association, 111-119, 2019.

[C2] B. Haefner, Y. Queau and D. Cremers,
Photometric Segmentation: Simultaneous Photometric Stereo and Masking,
International Conference on 3D Vision (3DV), Quebec City, Canada, September 2019, Spotlight Presentation.

[C3] B. Haefner, Z. Ye, M. Gao, T. Wu, Y. Queau and D. Cremers,
Variational Uncalibrated Photometric Stereo under General Lighting,
International Conference on Computer Vision (ICCV), Seoul, South Korea, October 2019.

[C4] A. Vasilev, V. Golkov, M. Meissner, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
q-Space Novelty Detection with Variational Autoencoders,
MICCAI 2019 International Workshop on Computational Diffusion MRI, 2019, Oral Presentation.

[C5] P. Swazinna, V. Golkov, I. Lipp, E. Sgarlata, V. Tomassini, D. K. Jones and D. Cremers,
Negative-Unlabeled Learning for Diffusion MRI,

[C6] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers,
Rolling-Shutter Modelling for Visual-Inertial Odometry,

[C7] M. Eisenberger, Z. Lähner and D. Cremers,
Divergence-Free Shape Correspondence by Deformation,

[C8] E. Laude, T. Wu and D. Cremers,
Optimization of Inf-Convolution Regularized Nonconvex Composite Problems,
International Conference on Artificial Intelligence and Statistics (AISTATS), 2019.

[C9] T. Möllenhoff and D. Cremers,
Lifting Vectorial Variational Problems: A Natural Formulation based on Geometric Measure Theory and Discrete Exterior Calculus,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019, Oral Presentation.
[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. Möller, 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,
[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**,  
[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.
List of Publications


Conference and Workshop Papers


[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,
European Conference on Mobile Robots (ECMR), September 2017.

[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,
International Conference on Quality Control by Artificial Vision (QCAV), 2017.

[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 demosaicage,
GRETSI, Juan-les-Pins, USA, 2017.

Bronstein, M. M. Bronstein, R. Kimmel and D. Cremers,
Efficient Deformable Shape Correspondence via Kernel Matching,
International Conference on 3D Vision (3DV), Qingdao, China, October 2017, Oral Presentation.

[C23] R. Maier, R. Schaller and D. Cremers,
Efficient Online Surface Correction for Real-time Large-Scale 3D Reconstruction,
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[C24] J. Geiping, H. Dirks and D. Cremers,
Multiframe Motion Coupling for Video Super Resolution,
[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,
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[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,
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[C28] T. Möllenhoff and D. Cremers,
Sublabel-Accurate Discretization of Nonconvex Free-Discontinuity Problems,
International Conference on Computer Vision (ICCV), Venice, Italy, October 2017.

[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
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[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,
IEEE Transactions on Medical Imaging, 35: 2016, Special Issue on Deep Learning.
[J6] O. Litany, E. Rodola, A. M. Bronstein, M. M. Bronstein and D. Cremers, 
Non-Rigid Puzzles, 
Computer Graphics Forum, 35(5): 135-143, 2016, Received the Best Paper Award at 
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[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 Corre- 
spondence, 

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[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, 
23rd International Conference on Pattern Recognition, ICPR 2016, Cancúin, Mexico, 

[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, 
2016 IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2016, Las 

[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, 
Annual Conference on Neural Information Processing Systems (NIPS), Barcelona, Spain, 
dec 2016, Oral Presentation (acceptance rate: under 2%).

[C5] 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.

[C6] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Direct Visual-Inertial Odometry with Stereo Cameras, 
International Conference on Robotics and Automation (ICRA), May 2016.

[C7] A. Narr, R. Triebel and D. Cremers, 
Stream-based Active Learning for Efficient and Adaptive Classification of 3D 
Objects, 
International Conference on Robotics and Automation (ICRA), May 2016.
**SHREC’16: Matching of Deformable Shapes with Topological Noise,**
*Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR)*, May 2016.

**SHREC’16: Partial Matching of Deformable Shapes,**
*Proc. of Eurographics Workshop on 3D Object Retrieval (3DOR)*, May 2016.

[C10] 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.

[C11] L. Ma, C. Kerl, J. Stueckler and D. Cremers, 
**CPA-SLAM: Consistent Plane-Model Alignment for Direct RGB-D SLAM,**

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