Journal Articles

[J1] V. Usenko, N. Demmel, D. Schubert, J. Stueckler and D. Cremers, 
Visual-Inertial Mapping with Non-Linear Factor Recovery, 

Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras, 

Cloud-based collaborative 3D mapping in real-time with low-cost robots, 

Conference and Workshop Papers

[C1] N Demmel, C Sommer, D Cremers and V Usenko, 
Square Root Bundle Adjustment for Large-Scale Reconstruction, 

[C2] 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.

[C3] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers, 
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups, 

[C4] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers, 
Rolling-Shutter Modelling for Visual-Inertial Odometry, 

[C5] 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.

The TUM VI Benchmark for Evaluating Visual-Inertial Odometry, 

[C7] 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.

[C8] V. Usenko, N. Demmel and D. Cremers, 
The Double Sphere Camera Model, 
Author: V. Usenko

List of Publications

[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] 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 ()

[C11] 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.

[C12] J. Engel, V. Usenko and D. Cremers,
A Photometrically Calibrated Benchmark For Monocular Visual Odometry,

[C13] V. Usenko, J. Engel, J. Stueckler and D. Cremers,
Reconstructing Street-Scenes in Real-Time From a Driving Car,

[C14] V. Usenko, F. Seidel, Z. Marton, D. Pangercic and M. Beetz,
Furniture Classification using WWW CAD Models,

PhDThesis

[PhD1] V Usenko,
Visual-Inertial Navigation for Autonomous Vehicles,
Technische Universität München, München, 2019.