Author: V. Usenko

List of Publications

Journal Articles

[J1] V. Usenko, N. Demmel, D. Schubert, J. Stueckler and D. Cremers, 
Visual-Inertial Mapping with Non-Linear Factor Recovery, 
IEEE Robotics and Automation Letters (RA-L) 38; Int. Conference on Intelligent Robotics 

Omnidirectional DSO: Direct Sparse Odometry with Fisheye Cameras, 
IEEE Robotics and Automation Letters 38; Int. Conference on Intelligent Robots and 

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

Conference and Workshop Papers

[C1] C. Sommer, V. Usenko, D. Schubert, N. Demmel and D. Cremers, 
Efficient Derivative Computation for Cumulative B-Splines on Lie Groups, 
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, Oral Pre- 
sentation.

[C2] D. Schubert, N. Demmel, L. von Stumberg, V. Usenko and D. Cremers, 
Rolling-Shutter Modelling for Visual-Inertial Odometry, 

[C3] 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, 

[C5] 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.

[C6] V. Usenko, N. Demmel and D. Cremers, 
The Double Sphere Camera Model, 

From Monocular SLAM to Autonomous Drone Exploration, 
European Conference on Mobile Robots (ECMR), September 2017.

[C8] 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 ()

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[C9] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Direct Visual-Inertial Odometry with Stereo Cameras, 

[C10] J. Engel, V. Usenko and D. Cremers, 
A Photometrically Calibrated Benchmark For Monocular Visual Odometry, 

[C11] V. Usenko, J. Engel, J. Stueckler and D. Cremers, 
Reconstructing Street-Scenes in Real-Time From a Driving Car, 

[C12] 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.