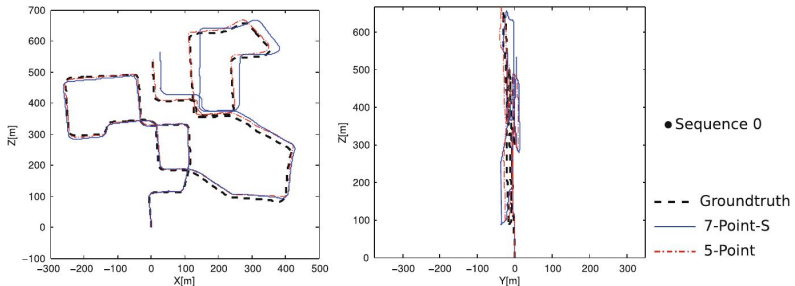


On the Second Order Statistics of Essential Matrix Elements

M. H. Mirabdollah and B. Mertsching (GCPR 2014)



- ▶ Relative monocular camera motion estimation based on the coplanarity constraint
- ▶ 8-point methods have poor performance in the presence of noise
- ▶ Investigation of the second order statistics of essential matrix elements
- ▶ Using Taylor expansion for a rotation matrix up to second order terms a covariance matrix is obtained
- ▶ Covariance matrix is utilized along with the coplanarity equations and acts as regularization term
- ▶ Considerable improvements in the recovery of the camera motion
- ▶ Evaluation based on simulation and on the KITTI dataset for visual odometry