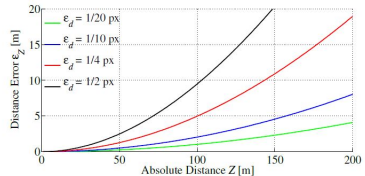


Know Your Limits: Accuracy of Long Range Stereoscopic Object Measurements in Practice

P. Pinggera, D. Pfeiffer, U. Franke and R. Mester (ECCV 2014)



- ▶ Determining the location and velocity of potential obstacles for autonomous vehicles or advanced driver assistance systems
- ▶ Middlebury and KITTI provide important reference values but do not sufficiently treat local sub-pixel matching accuracy
- ▶ Comprehensive statistical evaluation of selected state-of-the-art stereo matching approaches on an extensive dataset
- ▶ Establishing reference values for the precision limits actually achievable in practice
- ▶ For a carefully calibrated camera setup under real-world imaging conditions a consistent error limit of 1/10 pixel is determined
- ▶ Guidelines on algorithmic choices derived from theory to achieve this limit in practice