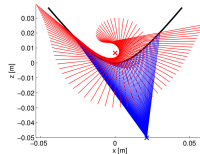
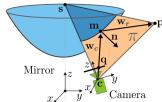
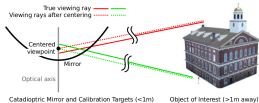


Calibrating and Centering Quasi-Central Catadioptric Cameras

M. Schönbein, T. Strau, and A. Geiger (ICRA 2014)



- ▶ Omnidirectional 3D reconstruction of augmented Manhattan worlds from catadioptric stereo video sequences
- ▶ Optimizing depth jointly in a unified omnidirectional space in contrast to constructing virtual perspective views
- ▶ An omnidirectional slanted-plane MRF model based on superpixels
- ▶ Plane-based prior models using a voting scheme for 3D planes in omnidirectional space
- ▶ Loopy BP to find the best plane hypothesis for each superpixel
- ▶ A new dataset captured using two horizontally aligned catadioptric cameras and a Velodyne HDL-64E laser scanner for ground truth depth (AnnieWAY)
- ▶ Better than existing stereo methods thanks to unified view, with reduced noise a compact plane representation