

# An Evaluation of Data Costs for Optical Flow

C. Vogel, S. Roth, K. Schindler (GCPR 2013)

- ▶ Appropriate data cost functions necessary for outdoor challenges like shadows, reflections
- ▶ Evaluation so far
  - ▶ certain types of data costs
  - ▶ data without outdoor challenges
- ▶ Contribution
  - ▶ Systematic evaluation of pixel- and patch-based data costs (Brightness constancy, normalized cross correlation, mutual information, census transform)
  - ▶ Approximation of census transform for gradient-based methods
  - ▶ Unified state-of-the-art testbed
  - ▶ Evaluation on realistic KITTI dataset
- ▶ On real world data patch-based perform better than pixel-based costs
- ▶ Census transform slightly outperforms all others