

Spherical Light Fields

Bernd Krolla¹

<http://av.dfki.de/~krolla>

Maximilian Diebold²

<http://hci.iwr.uni-heidelberg.de/Staff/mdiebold/>

Bastian Goldlücke³

<http://www.informatik.uni-konstanz.de/cvia/>

Didier Stricker¹

<http://av.dfki.de/stricker>

¹ German Research Center

for Artificial Intelligence,
Trippstadter Straße 122,
Kaiserslautern, Germany

² Heidelberg Collaboratory

for Image Processing,
Speyerer Straße 6,
Heidelberg, Germany

³ Department for Computer and

Information Science,
University of Konstanz,
Konstanz, Germany

Supplementary material

Within this document, an overview of the processed datasets is provided. Please note, that the provided images are due to file size limitations not displayed in maximum resolution. Only the left closeups of each dataset are shown in original resolution.

Contents

1 Dataset 1: Geometric primitives	2
2 Dataset 2: Bedroom	3
3 Dataset 3: Courtyard	4
4 Dataset 4: Basement	5
5 Dataset 5: Bikes	6

1 Dataset 1: Geometric primitives

Scene type	Synthetic Blender scene
Number of images	11
Image resolution [px]	7200×3000
Evaluation	Against Blender groundtruth
MAE_E [px]	1.869
MAE_R [px]	0.074

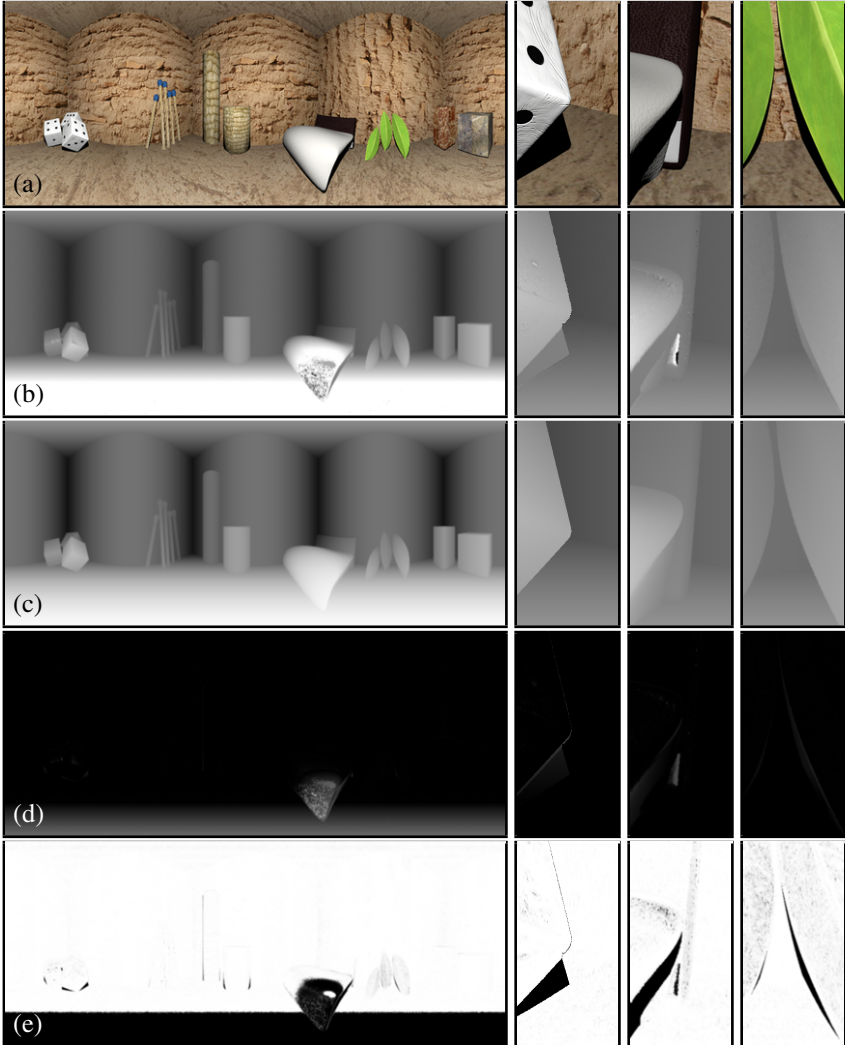


Figure 1: (a) Center view image. (b) Depth map of the center view image (c) Ground truth depth data (d) Difference between the depth estimation and the ground truth data (e) coherence map which gives information about the reliability of the measurement

2 Dataset 2: Bedroom

Scene type	Synthetic Blender scene
Number of images	11
Image resolution [px]	7200×3000
Evaluation	Against Blender groundtruth
MAE_E [px]	3.875
MAE_R [px]	1.581

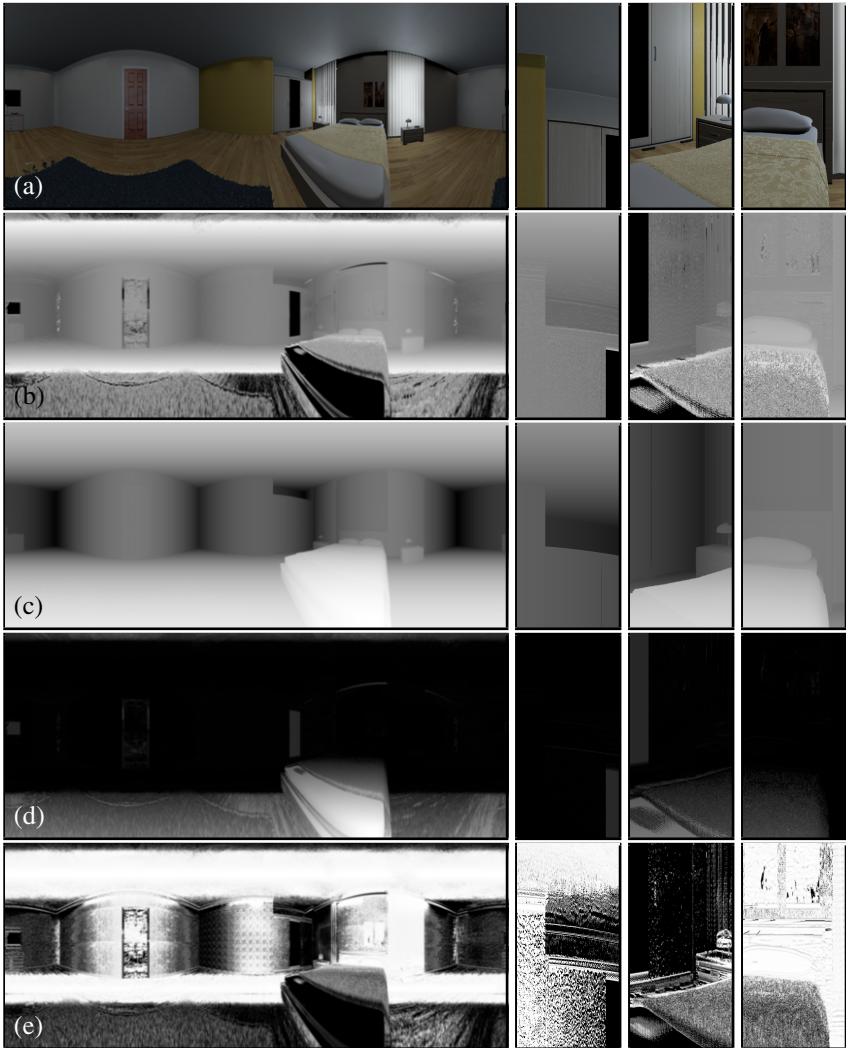


Figure 2: (a) Center view image. (b) Depth map of the center view image (c) Ground truth depth data (d) Difference between the depth estimation and the ground truth data (e) coherence map which gives information about the reliability of the measurement

3 Dataset 3: Courtyard

Scene type	Real scene
Number of images	19
Baseline	5mm
Captured image resolution $[px]$	14000×7000
HDR-images (bit-depth)	24bit
Dynamic Range of the HDR Center View	$1 : 5.43293 \cdot 10^7$
Kernel size $[px]$	15×7
Processing time $[s]$	75

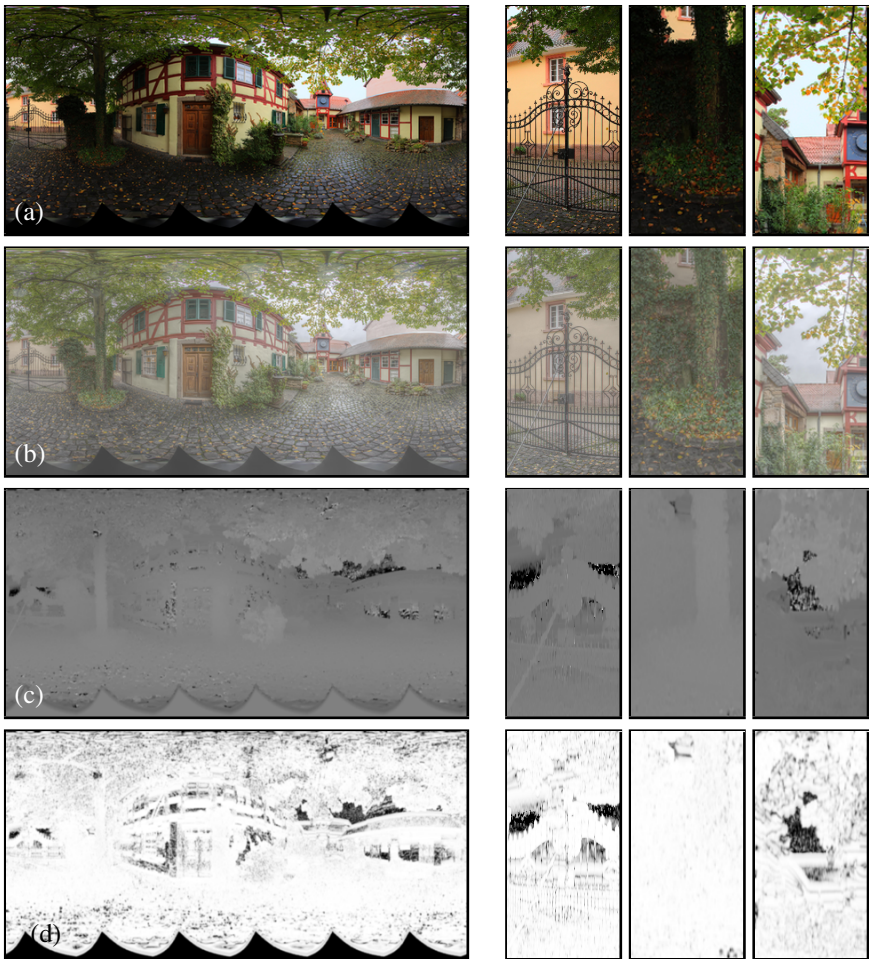


Figure 3: Results of the *courtyard* dataset. The center view image of the dataset is shown with realistic (a) and contrast-optimized tonemapping (b). The disparity map, computed with the structure tensor approach (c), and the coherence map, indicating the reliability of the disparity estimation (d), are shown below.

4 Dataset 4: Basement

Scene type	Real scene
Number of images	13
Baseline	5mm
Captured image resolution $[px]$	14000×7000
HDR-images (bit-depth)	24bit
Dynamic Range of the HDR Center View	$1 : 3.79699 \cdot 10^{10}$
Kernel size $[px]$	13×23
Processing time $[s]$	54

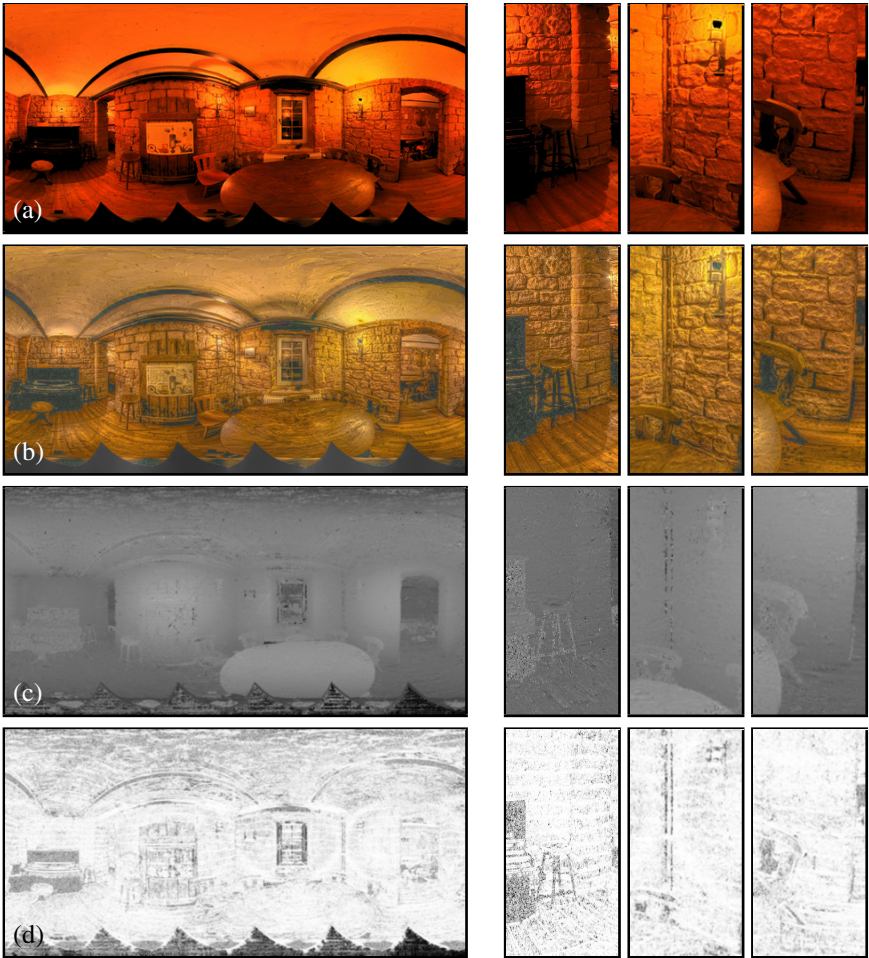


Figure 4: Results of the *basement* dataset. The center view image of the dataset is shown with realistic (a) and contrast-optimized tonemapping (b). The disparity map, computed with the structure tensor approach (c), and the coherence map, indicating the reliability of the disparity estimation (d), are shown below.

5 Dataset 5: Bikes

Scene type	Real scene
Number of images	11
Baseline	5mm
Captured image resolution $[px]$	14000×7000
HDR-images (bit-depth)	24bit
Dynamic Range of the HDR Center View	$1 : 4.3849 \cdot 10^7$
Kernel size $[px]$	11×7
Processing time $[s]$	41

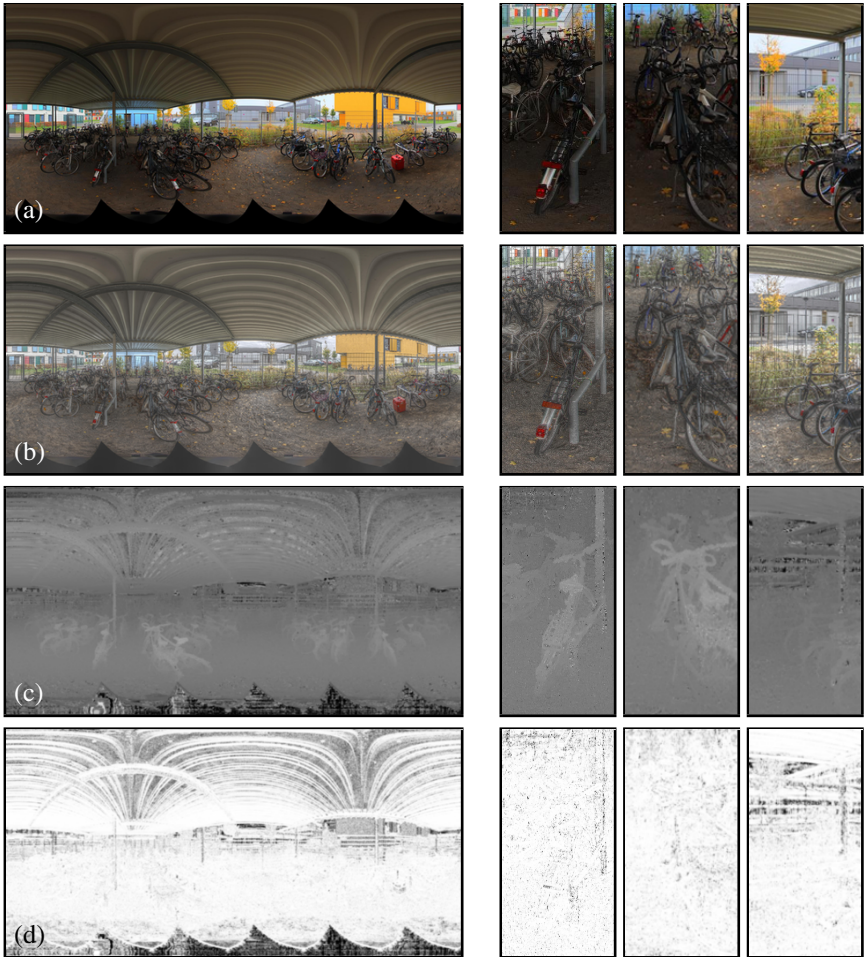


Figure 5: Results of the *bikes* dataset. The center view image of the dataset is shown with realistic (a) and contrast-optimized tonemapping (b). The disparity map, computed with the structure tensor approach (c), and the coherence map, indicating the reliability of the disparity estimation (d), are shown below.