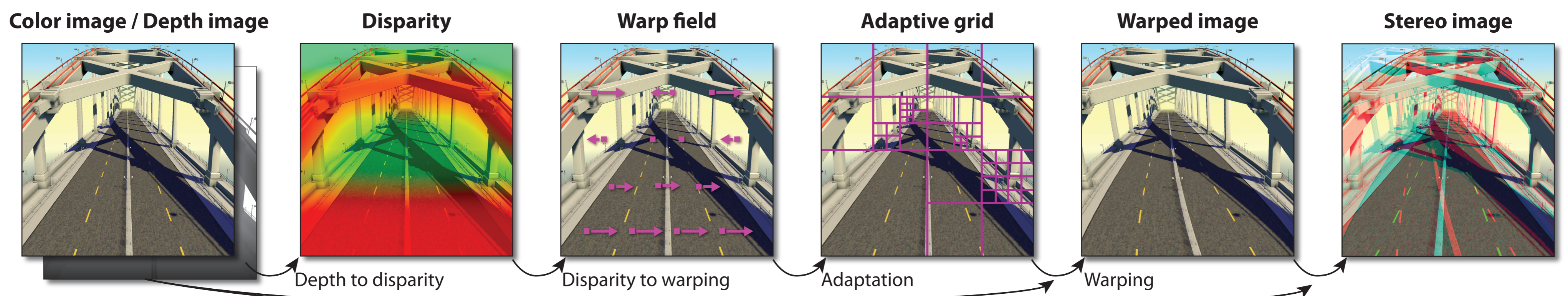


Adaptive Image-space Stereo View Synthesis

Piotr Didyk¹, Tobias Ritschel^{2,3}, Elmar Eisemann^{2,3}, Karol Myszkowski¹, Hans-Peter Seidel¹

¹ Max-Planck-Institut für Informatik ² INTEL Visual Computing Institute ³ Télécom ParisTech / CNRS

Pipeline



1. Motivation

Today's rendering:

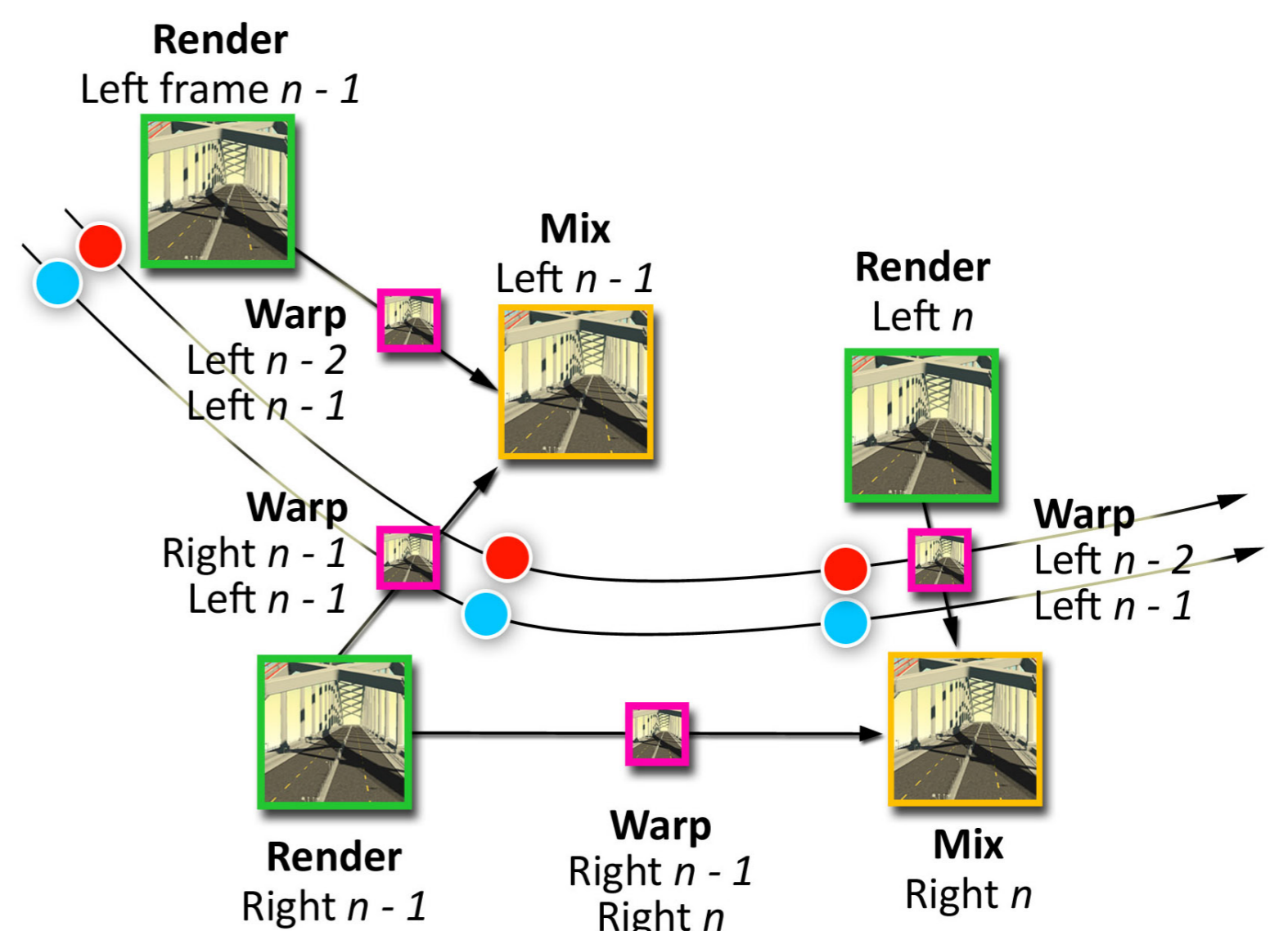
- high resolution
- high framerate
- stereo

Stereo → **framerate / 2**

- render one view per frame
- for the other use an image-base technique
- avoid a second rendering pass by using an image-based technique



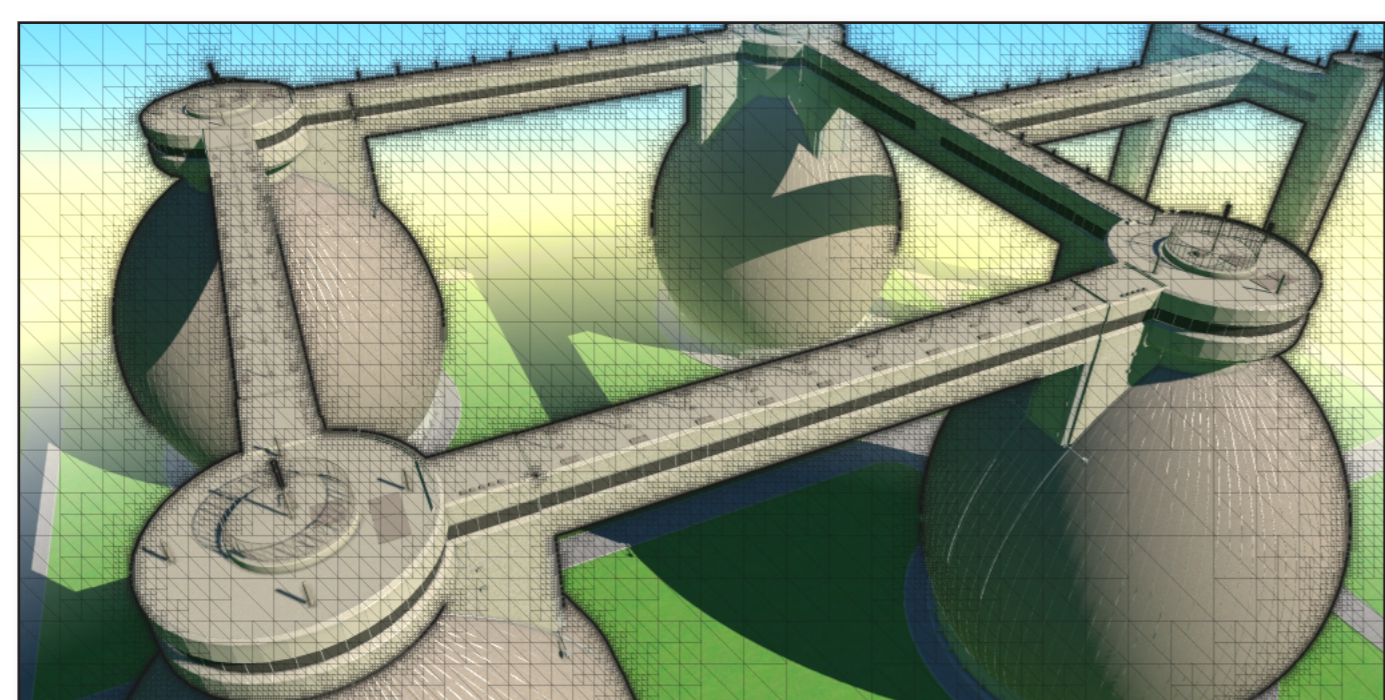
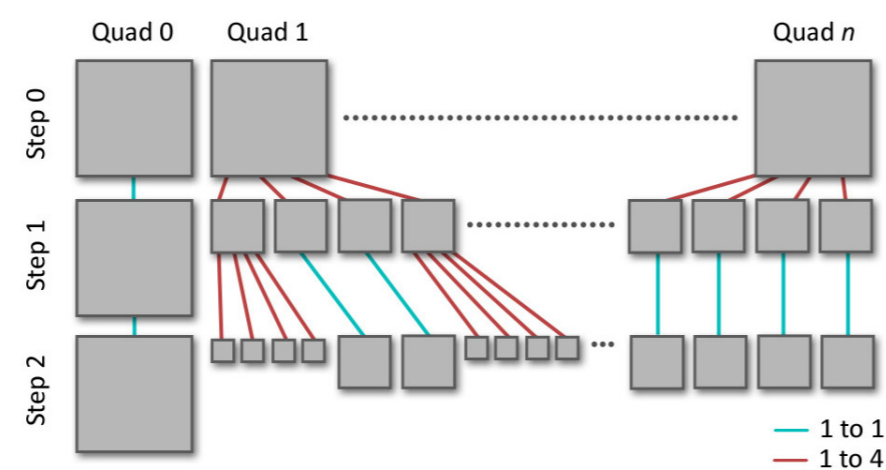
3. Temporal domain



- interleaving left and right-view rendering
 - choose optimal view to reduce disocclusion artifacts
 - the final view composition based on mesh deformation
- guaranteed convergence and significant artifacts reduction

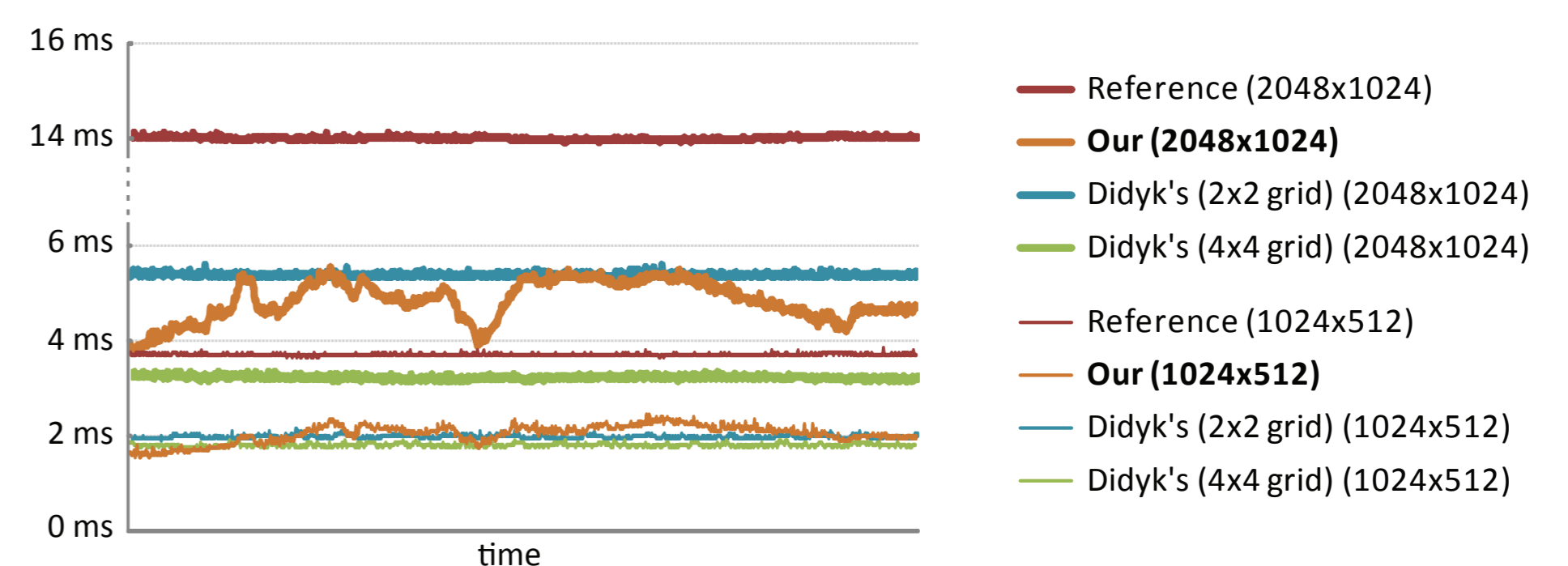
2. Adaptive grid

- grid adapts to disparity discontinuities
- multi-level subdivision
- efficient implementation using the geometry shader

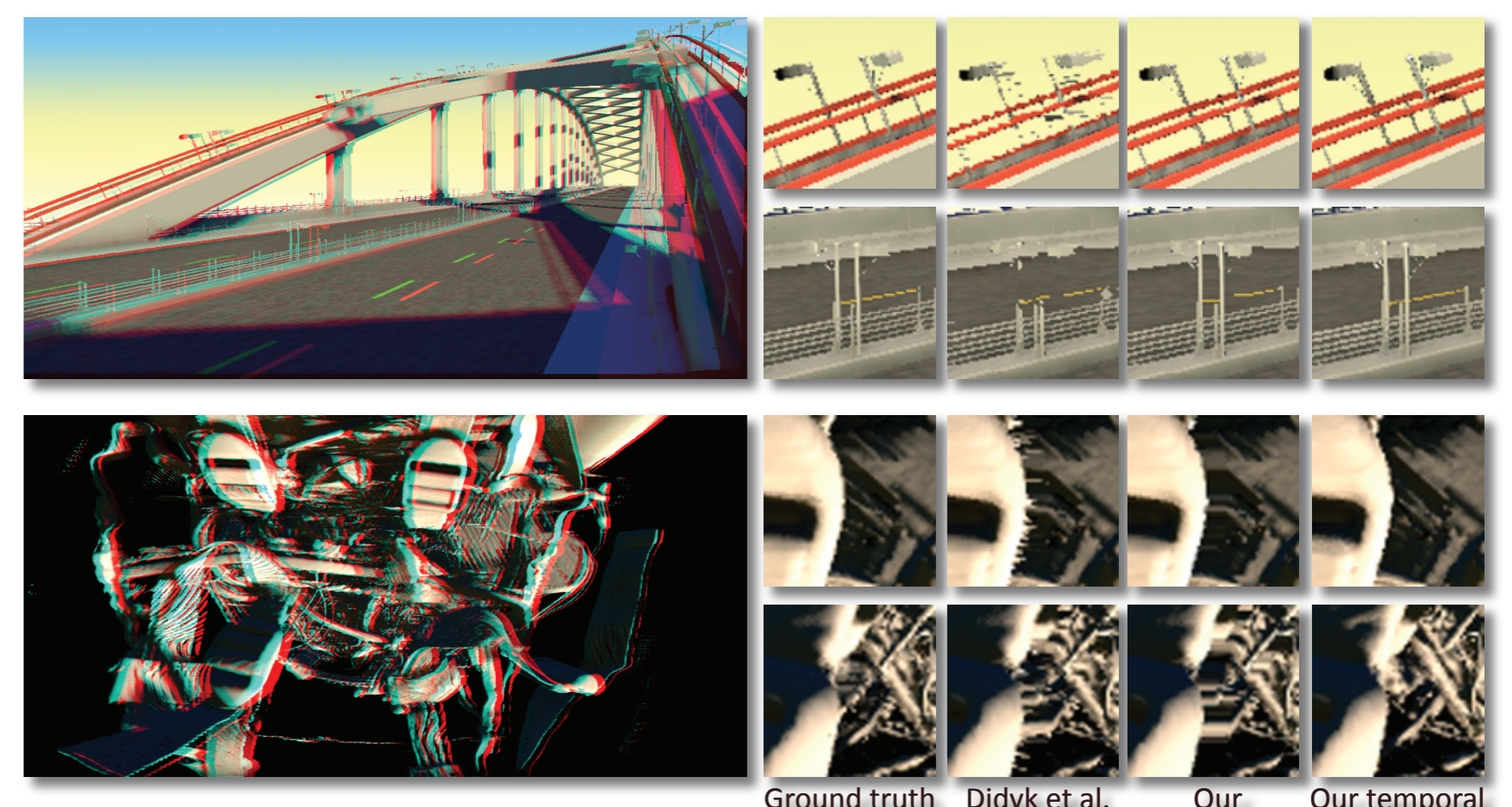
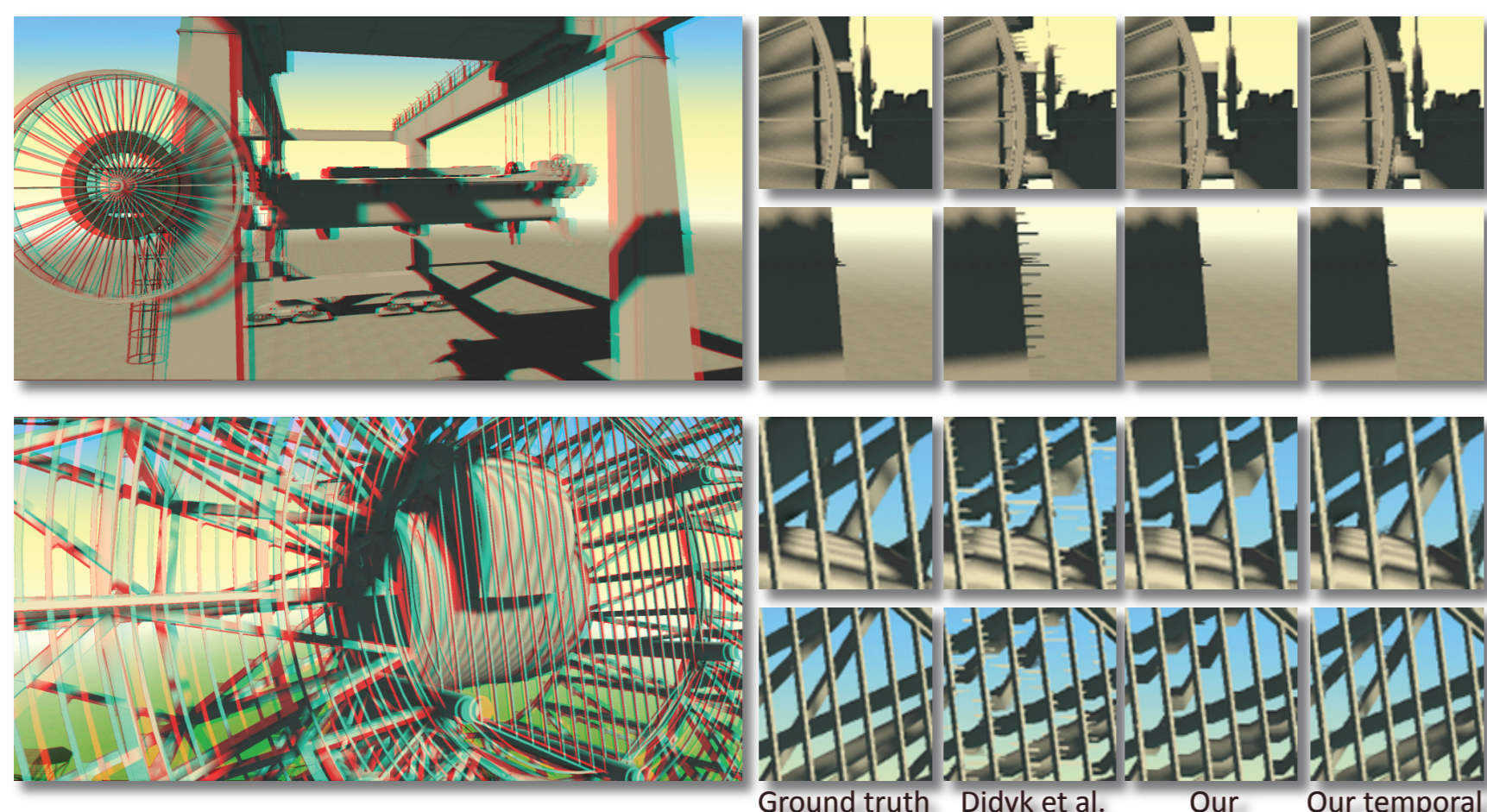


→ second view is generated by morphing the grid

4. Performance



5. Results



Find more on: <http://mpii.de/resources/AdaptiveStereoViewSynthesis/>