Phase-Based Frame Interpolation for Video
Supplementary Material

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SSIM Error Measurements

In Figure 1 we report error measures using the perceptually motivated structural similarity (SSIM) measure. This complements the sum of squared distances (SSD) error measures reported in Figure 8 (right) in the paper.

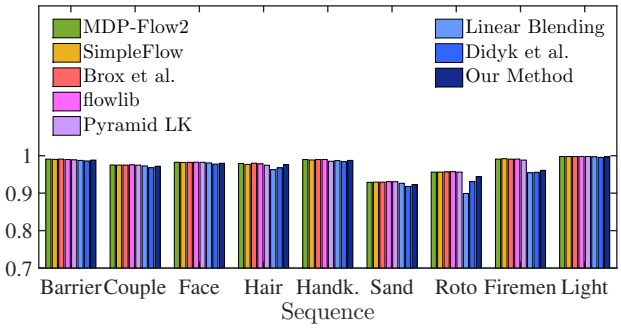


Figure 1: Error measurements (SSIM) for the different sequences shown in Figure 2. Note that a higher value is better with 1 being the maximum.

Input Images

In Figure 2 we show example input images from the sequences used to compute the error measures in Figure 1 as well as in Figure 8 (right) in the paper.

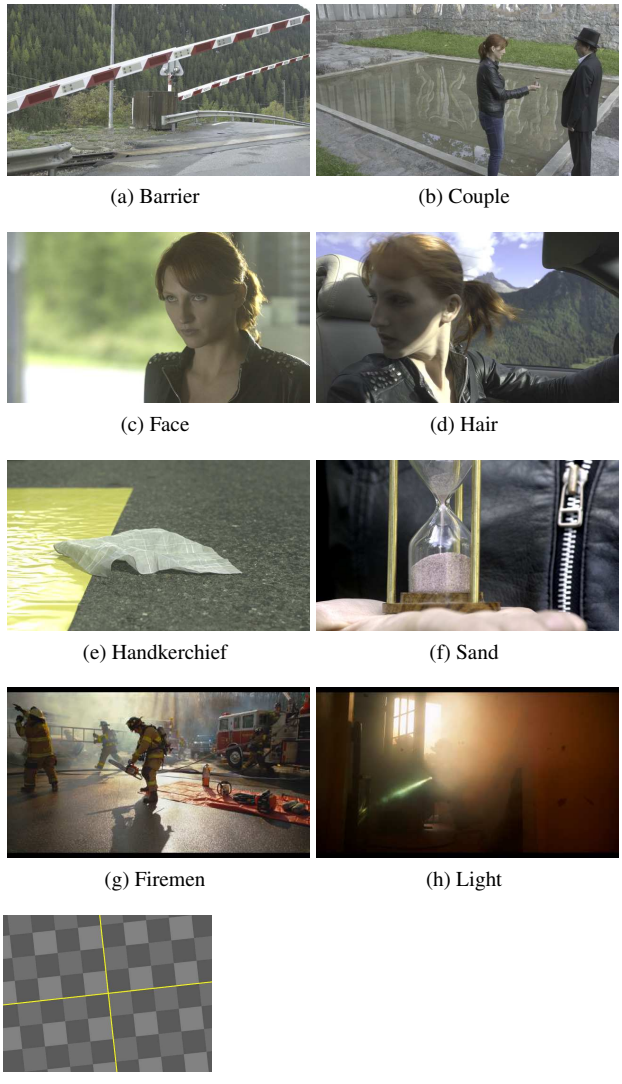
Middlebury Dataset

In Figure 3 we compare our phase-based method to optical flow on the Middlebury dataset[1]. In order to increase the visual quality of our results, we ignored the high pass residual in these examples, which, however, leads to larger numerical errors compared to the ground truth.

References

[1] T. Brox, A. Bruhn, N. Papenberg, and J. Weickert. High accuracy optical flow estimation based on a theory for warping. In *ECCV*, pages 25–36, 2004. 2

[1] http://vision.middlebury.edu/flow/



(a) Barrier (b) Couple

(c) Face (d) Hair

(e) Handkerchief (f) Sand

(g) Firemen (h) Light

(i) Roto

Figure 2: The sequences used for the error measurements in Figure 1 as well as in Figure 8 (right) in the paper.

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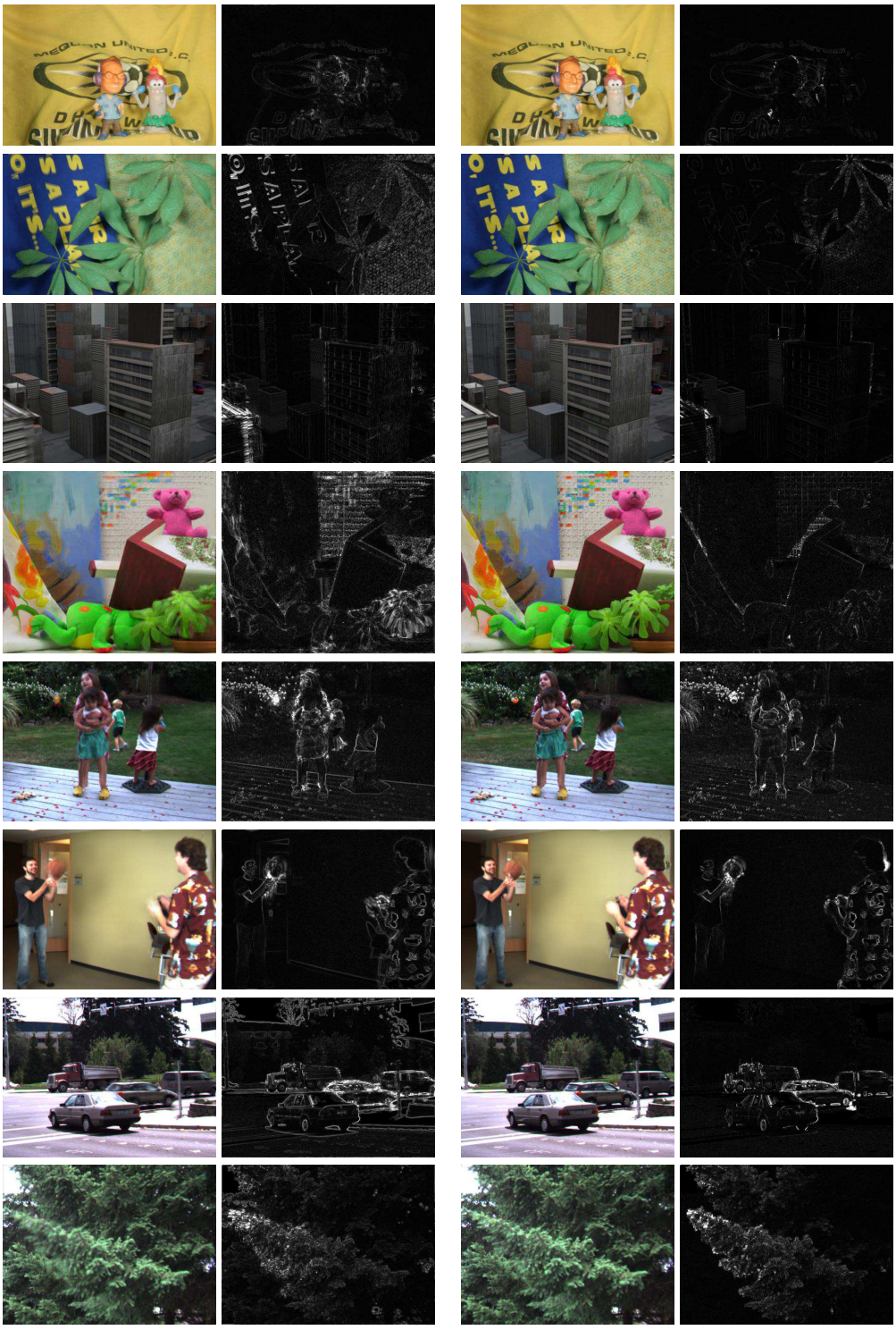

Our method | Interpolation error of our method | Optical flow [1] | Interpolation error of optical flow

Figure 3: Comparison between our phase-based method and optical flow regarding the interpolation results and errors of various images from the Middlebury dataset (http://vision.middlebury.edu/flow/).