# Accurate Depth Map Estimation from Small Motions – Appendix 1

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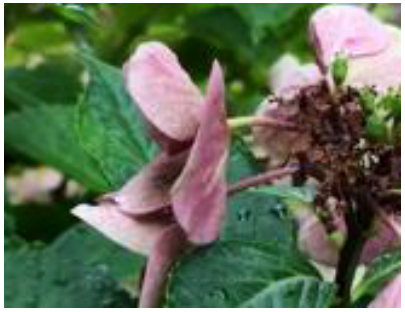
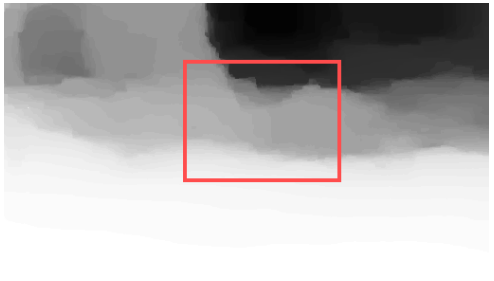
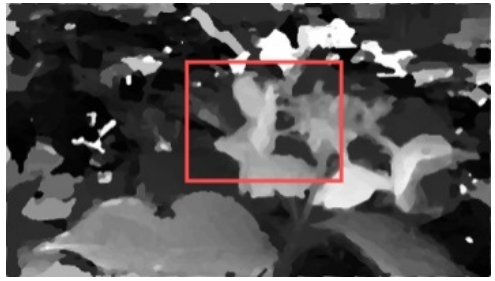
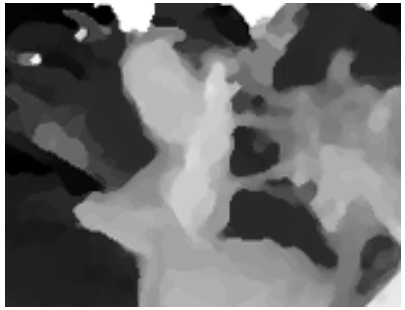
**A: Narrow baseline motion (Extended version of Fig. 3 in the paper):**

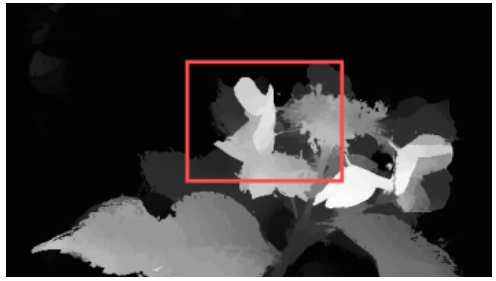
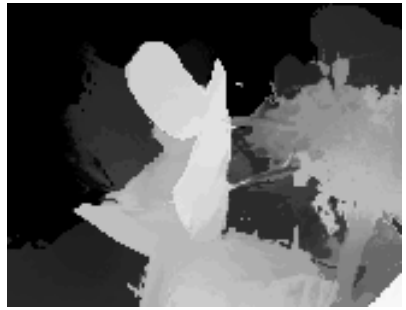
a. A frame from the sequence



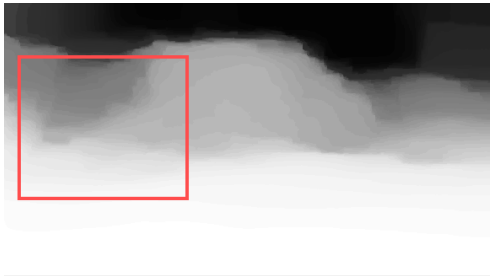

Depth map computed by Kevin Karsch *et al*. [31]

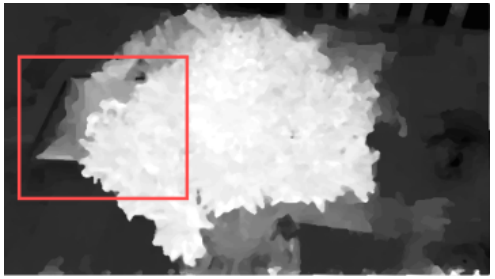



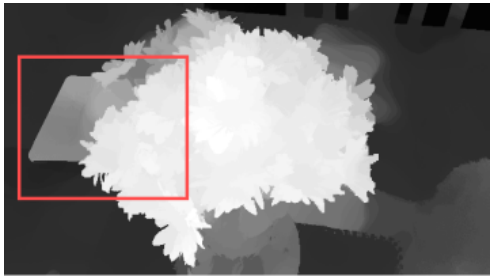
Depth map computed by Hyowon Ha *et al*. [11]

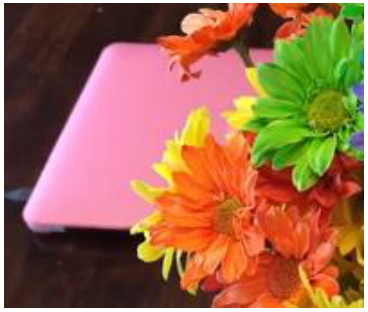



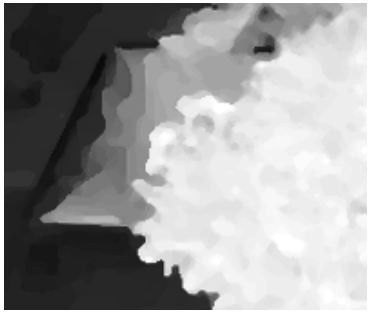
Depth map computed by the proposed method.

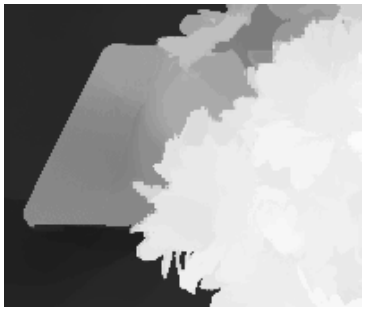










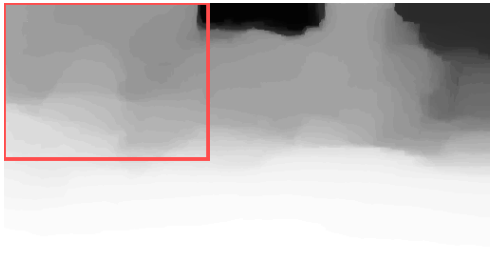


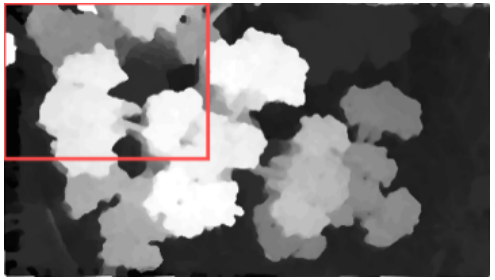
b. A frame from the sequence

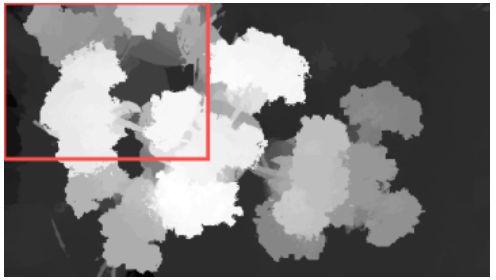
Depth map computed by Kevin Karsch *et al*. [31]

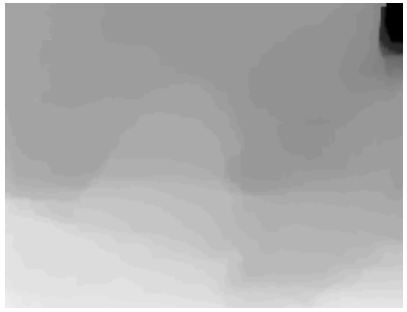
Depth map computed by Hyowon Ha *et al*. [11]

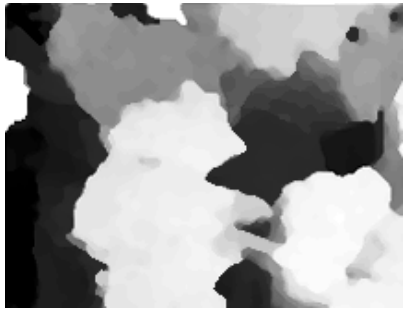
Depth map computed by the proposed method.

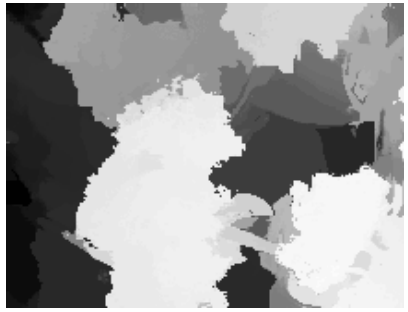










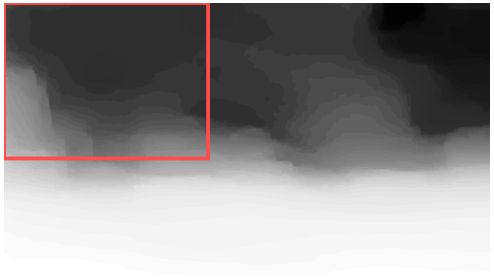


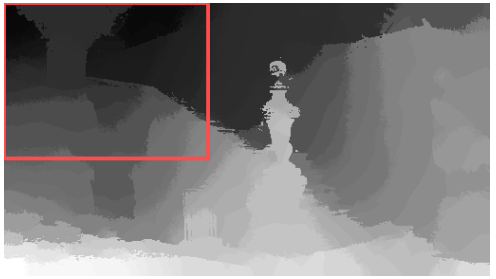
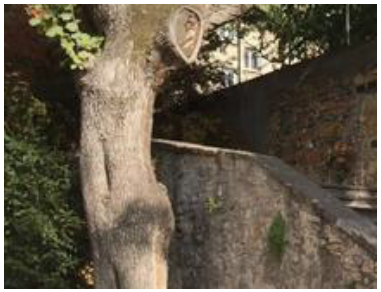
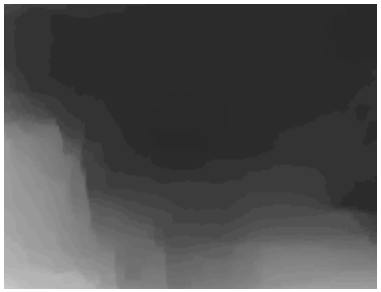
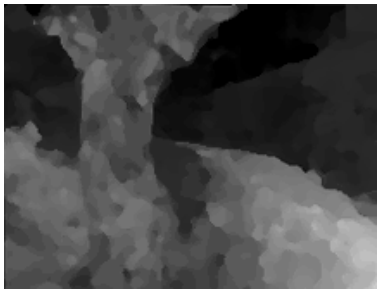
c. A frame from the sequence

Depth map computed by Kevin Karsch *et al*. [31]

Depth map computed by Hyowon Ha *et al*. [11]

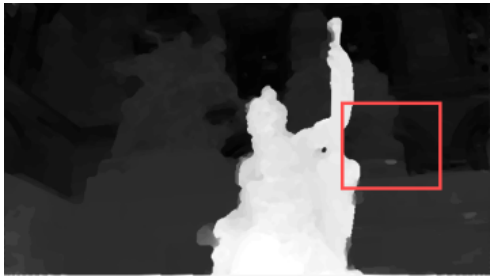
Depth map computed by the proposed method.


d. A frame from the sequence | Depth map computed by Kevin Karsch *et al.* [31] | Depth map computed by Hyowon Ha *et al.* [11] | Depth map computed by the proposed method.



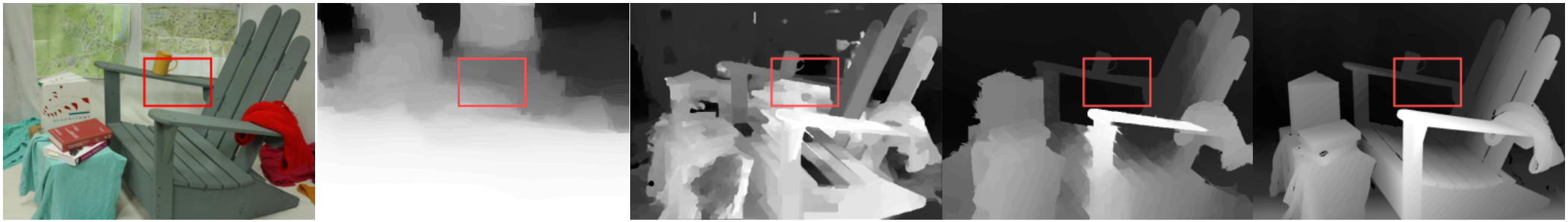




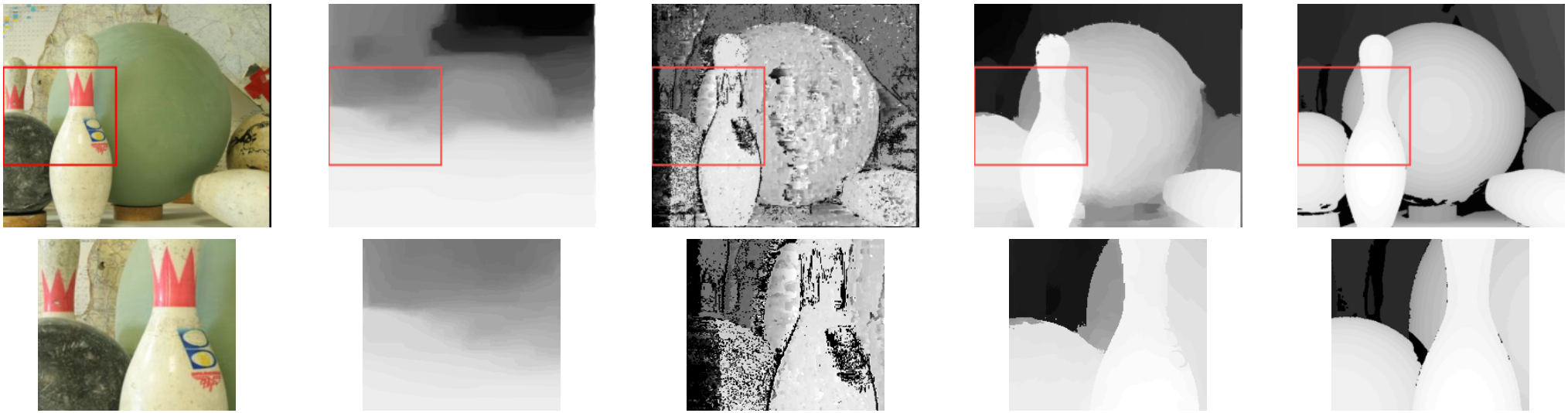

e. A frame from the sequence | Depth map computed by Kevin Karsch *et al.* [31] | Depth map computed by Hyowon Ha *et al.* [11] | Depth map computed by the proposed method.

**Figure 1. Comparison of the depth from small motion with state-of-the-art methods**

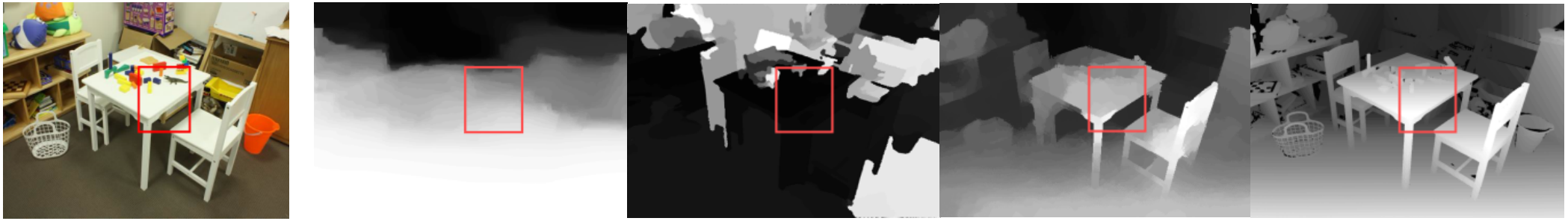
## B: Wider baseline motion (Extended version of Fig. 5 in the paper):



a. Reference frame | Kevin Karsch *et al.* [31] | Hyowon Ha *et al.* [11] | Our method | Ground truth

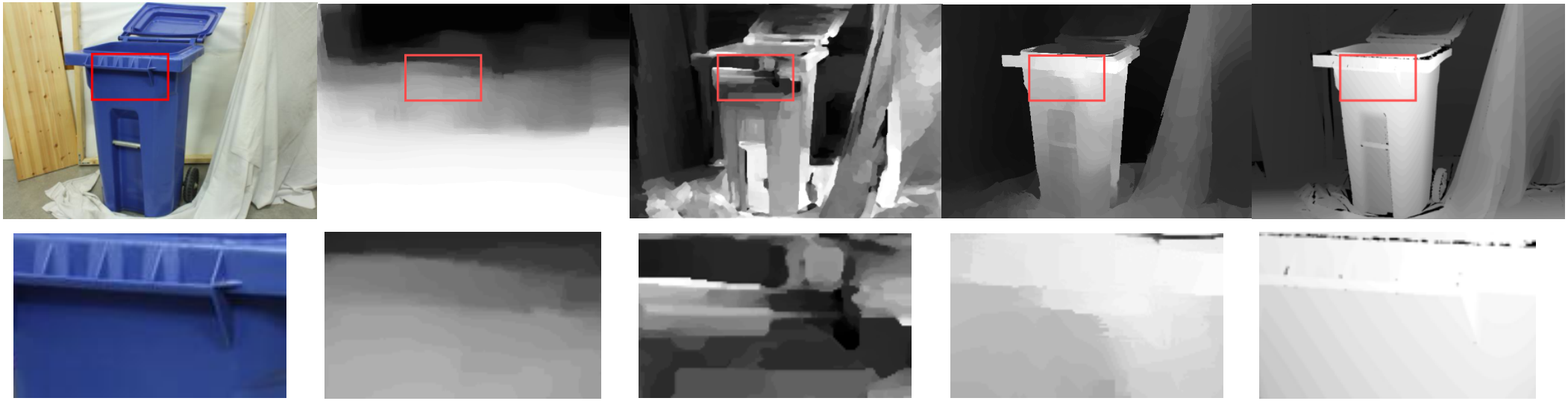


b. Reference frame | Kevin Karsch *et al.* [31] | Hyowon Ha *et al.* [11] | Our method | Ground truth



c. Reference frame | Kevin Karsch *et al.* [31] | Hyowon Ha *et al.* [11] | Our method | Ground truth

d. Reference frame | Kevin Karsch *et al.* [31] | Hyowon Ha *et al.* [11] | Our method | Ground truth



e. Reference frame | Kevin Karsch *et al.* [31] | Hyowon Ha *et al.* [11] | Our method | Ground truth

**Figure 2. Comparison with Kevin Karsch et al. [31] and Hyowon Ha et al. [11]based on Middlebury benchmark**

## C: Extended numerical results of Table. 2 in the paper:

**Table 1. Numerical comparison of the methods/stereo set (Colour coded)**

a. PSNR values method/stereo set

| | Adirondack | ArtL | Motorcycle | Piano | Playtable | Recycle | Teddy |
|---|---|---|---|---|---|---|---|
| **Ours** | 19.33 | 19.4 | 16.31 | 14.62 | 18.27 | 16.94 | 16.1 |
| **3DMST [32]** | 20.3976 | 17.8 | 20.2455 | 16.2395 | 18.6883 | 18.2445 | 16.6159 |
| **APAP-Stereo [33]** | 18.0996 | 21.2 | 19.2963 | 16.9351 | 19.3516 | 19.6014 | 16.6411 |

b. RMSE values method/stereo set

| | Adirondack | ArtL | Motorcycle | Piano | Playtable | Recycle | Teddy |
|---|---|---|---|---|---|---|---|
| **Ours** | 27.53 | 27.3 | 38.99 | 47.37 | 31.09 | 36.26 | 39.91 |
| **3DMST [32]** | 24.3591 | 29.2 | 24.7893 | 39.3156 | 29.6568 | 31.2116 | 31.2996 |
| **APAP-Stereo [33]** | 31.7366 | 19.6 | 27.6518 | 36.2897 | 27.4763 | 26.6974 | 31.2092 |

c. UQI values method/stereo set

| | Adirondack | ArtL | Motorcycle | Piano | Playtable | Recycle | Teddy |
|---|---|---|---|---|---|---|---|
| **Ours** | 0.95 | 0.89 | 0.89 | 0.85 | 0.9 | 0.84 | 0.77 |
| **3DMST [32]** | 0.80332 | 0.97 | 0.97527 | 0.88361 | 0.88142 | 0.80165 | 0.96016 |
| **APAP-Stereo [33]** | 0.94389 | 0.99 | 0.96679 | 0.94349 | 0.95932 | 0.9606 | 0.92711 |

d. SSIM values method/stereo set

| | Adirondack | ArtL | Motorcycle | Piano | Playtable | Recycle | Teddy |
|---|---|---|---|---|---|---|---|
| **Ours** | 0.80 | 0.75 | 0.66 | 0.61 | 0.72 | 0.72 | 0.65 |
| **3DMST [32]** | 0.80994 | 0.87 | 0.82063 | 0.77499 | 0.80362 | 0.79859 | 0.90701 |
| **APAP-Stereo [33]** | 0.88369 | 0.88 | 0.81608 | 0.81688 | 0.83617 | 0.87918 | 0.87959 |