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Title	**[MPEG-I Visual] New depth maps for IntelFrog sequence**
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1   Introduction

In this document we propose new depth maps for IntelFrog sequence. We also include the results of coding the anchor using TMIV when proposed depth maps are used.

2   Overview of the proposal

The proposed depth maps were calculated using the method based on [1] and [2]. The estimation is performed for segments and thus their size can be used to control a trade-off between the quality of depth maps and the processing time. The method uses also parallelization and temporal consistency enhancement methods that reduce the processing time of depth estimation. In the end, the depth maps were enhanced using the PDR [3].

Fig. 1 shows the comparison of previously used depth maps and the proposed ones, together with the synthesized virtual view.

3   Experimental results

The experimental results are presented in the table below.

	Synthesis BD-rate					
	Y-PSNR	U-PSNR	V-PSNR	VMAF	MS-SSIM	IV-PSNR
high bitrates	11.02%	-45.46%	-59.57%	-33.29%	-8.21%	-51.94%
low bitrates	-18.83%	-45.23%	-53.72%	-40.29%	-31.95%	-45.60%

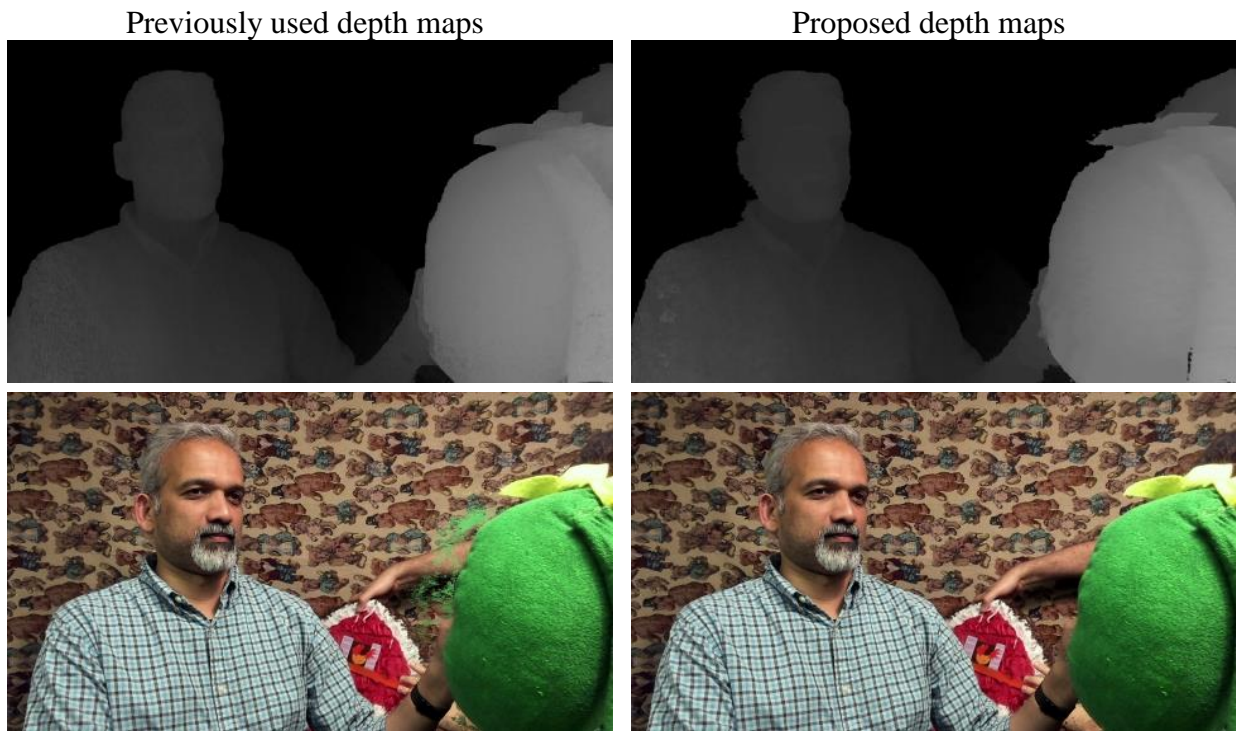Pixel-rate was reduced by **50%** compared to the MIV anchor (5 atlases instead of 10).

| Previously used depth maps | Proposed depth maps |

Fig. 1. The comparison of previously used and proposed depth maps
and the resulting virtual view synthesis.

4   Acknowledgement

5   Recommendations

We recommend to use proposed depth maps for new Core Experiments and include them in the Common Test Conditions.

6   References

[1] D. Mieloch, "Depth Estimation in Free-Viewpoint Television", PhD Dissertation at Poznan University of Technology, Faculty of Electronics and Telecommunications, 2018.

[2] D. Mieloch, A. Dziembowski, A. Grzelka, O. Stankiewicz, M. Domański, "Graph-based multiview depth estimation using segmentation", IEEE International Conference on Multimedia and Expo ICME 2017, Hong Kong, 10-14 July 2017.

[3] "Manual of depth refinement software PDR", ISO/IEC JTC1/SC29/WG11 MPEG2019/N18708, Gothenburg, July 2019.