INTERNATIONAL ORGANISATION FOR STANDARDISATION
ORGANISATION INTERNATIONALE DE NORMALISATION
ISO/IEC JTC1/SC29/WG4
MPEG VIDEO CODING

ISO/IEC JTC1/SC29/WG4 MPEG/M54947
June 2020, Online

Source **Poznań University of Technology (PUT), Poznań, Poland**
Status **Input**
Title **New depth maps for Frog and Fencing sequences**
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1 Introduction

This document provides new depth maps for SE and SL [N19484], together with the results of coding the anchor using TMIV when proposed depth maps are used.

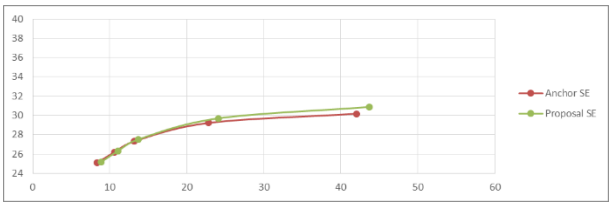
New depth maps were estimated using IVDE [N19224] and additionally refined using a bilateral filter. Input views were color-corrected and denoised in order to increase the final quality of estimated depth maps.

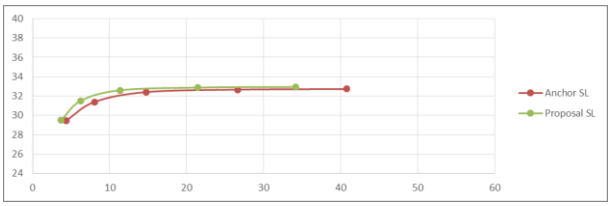
For the Fencing sequence, the z_near parameter was changed from 3.5 to 3.0, as some parts of the scene did not fit in the previous depth range.

2 Experimental results

Below, the comparison between the current TMIV [N19483] anchor and TMIV encoding in ff configuration [N19484] that uses proposed depth maps is presented.

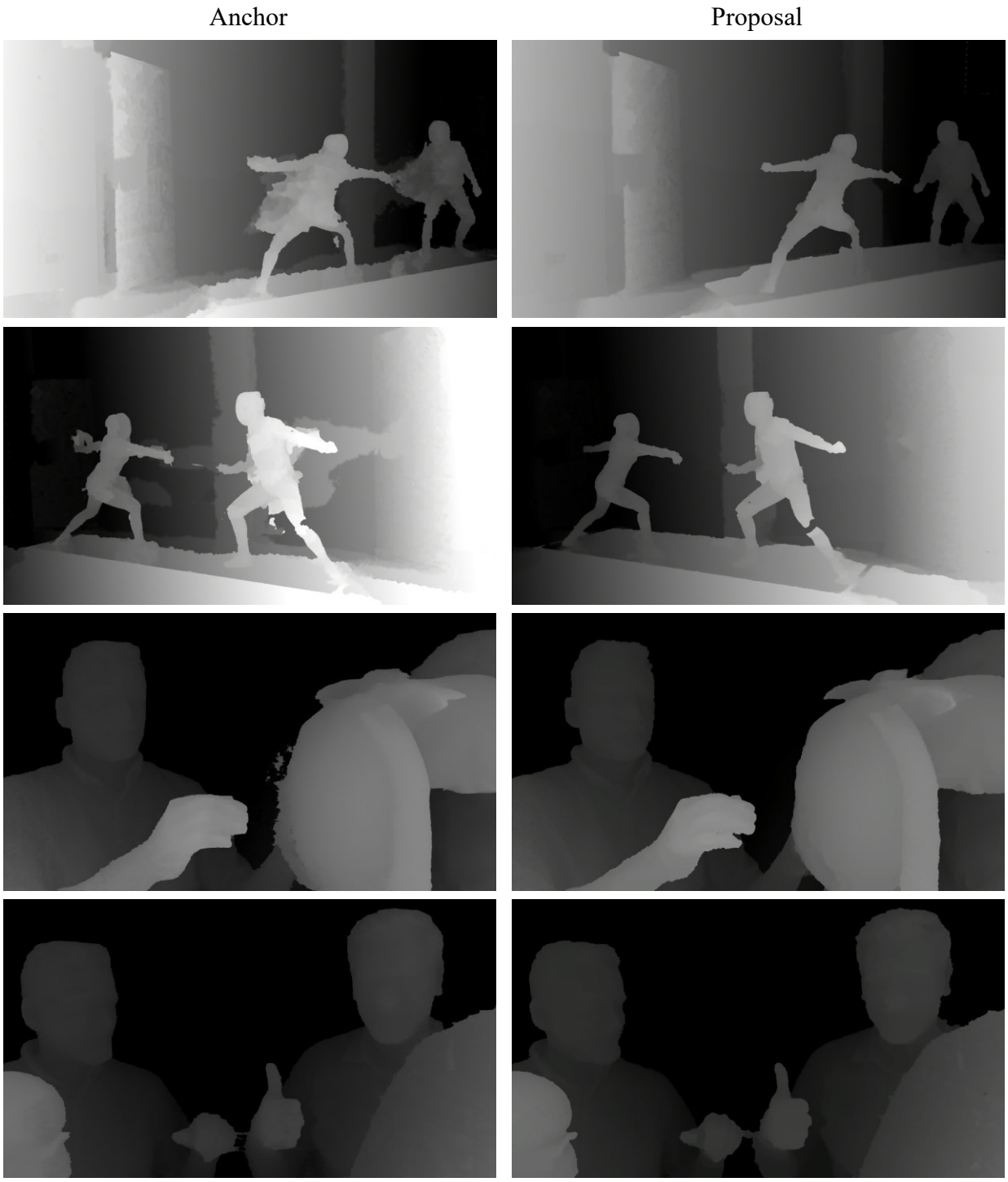
Sequence		High-BR BD rate Y-PSNR	Low-BR BD rate Y-PSNR	Max delta Y-PSNR	High-BR BD rate VMAF	Low-BR BD rate VMAF	High-BR BD rate IV-PSNR	Low-BR BD rate IV-PSNR
Frog	SE	-6.7%	-0.9%	5.41	-4.3%	0.1%	0.1%	2.9%
Fencing	SL	-34.2%	-25.5%	12.65	-24.0%	-21.8%	-25.9%	-22.0%
MIV		**-20.4%**	**-13.2%**	**9.03**	**-14.2%**	**-10.9%**	**-12.9%**	**-9.5%**





Posetraces are available in the MPEG content server in MPEG-I/Poznan/m54947/ directory.

As posetraces and depth maps show, for the Fencing sequence most of the temporal instability of depth maps has been corrected, while for the Frog the edges in depth maps are better matched with corresponding edges in textures.



3 Recommendations

We recommend using proposed depth maps in CTC for MIV experiments.

4 Acknowledgement

This work was supported by the Ministry of Science and Higher Education.

5 References

[N19224] Manual of Immersive Video Depth Estimation, ISO/IEC JTC1/SC29/WG11 MPEG2020/N19224, Online, April 2020.

[N19483] Test Model 6 for MPEG Immersive Video, ISO/IEC JTC1/SC29/WG11 MPEG2020/N19483, Online, July 2020.

[N19484] Common Test Conditions for MPEG Immersive Video, ISO/IEC JTC1/SC29/WG11 MPEG2020/N19484, Online, July 2020.