

Title: CE6.h related: Results on disabling of DMM 4

Status: Input Document

Purpose: Proposal

Author(s) or Contact(s): Yunseok Song,
Yo-Sung Ho

Tel: +82-62-715-2263

Email: ysong@gist.ac.kr
hoyo@gist.ac.kr

123 Cheomdangwagi-ro Buk-gu
Gwangju, Korea 500-712

Source: Gwangju Institute of Science and Technology (GIST)

Abstract

This document presents results on disabling of DMM 4. This mode was originally designed for predicting contours in the depth map. Tests were conducted to evaluate the efficiency of DMM 4. Simulation results report that disabling of DMM 4 led to 0.2% bitrate reduction in regards to synthesis.

1 Introduction

Depth modeling mode (DMM) 4 is for predicting contours of the depth block using its collocated texture luma block (CTLB) as a reference. The average of CTLB pixel values is used a threshold to generate the contour pattern. Figure 1 shows a contour partition of a depth block [1].

2 Disabling of DMM 4

In the current 3D-HEVC, the processing depth block size is either 8x8 or 16x16 or 32x32. For a block containing two regions partitioned by contours, its block size must be sufficiently bigger, thus DMM 4 would not show clear benefits in the current scheme. The efficiency of DMM 4 is tested by comparing the results from the anchor and the one with DMM 4 removed.

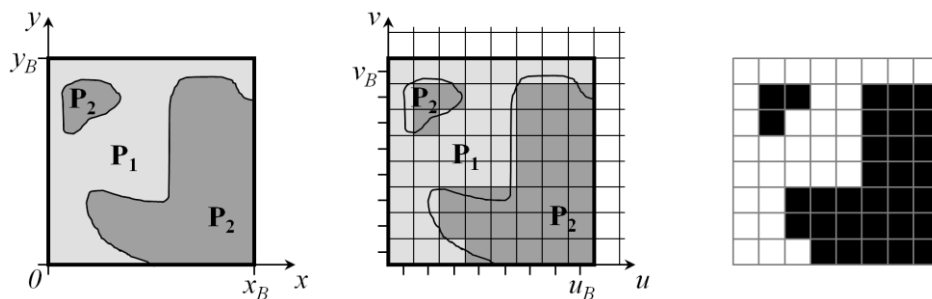


Figure 1. Contour partition of a depth block

3 Simulation Results

Table 1 shows the results under CTC [2]. Disabling of DMM 4 did not affect texture coding performances. In terms of synthesis, 0.2% bitrate reduction was achieved. Encoding and decoding runtimes are similar to those of anchor results since only one mode was concerned.

Table 1. Results under CTC

	video 0	video 1	video 2	video PSNR / video bitrate	video PSNR / total bitrate	synth PSNR / total bitrate	enc time	dec time
Balloons	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	99.5%	100.0%
Kendo	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	99.7%	100.2%
Newspaper_CC	0.0%	-0.1%	0.1%	0.0%	0.0%	0.0%	99.4%	100.5%
GT_Fly	0.0%	0.2%	0.2%	0.1%	0.1%	-0.3%	99.5%	100.7%
Poznan_Hall2	0.0%	0.0%	-0.2%	0.0%	0.0%	-0.3%	99.8%	100.1%
Poznan_Street	0.0%	0.2%	0.2%	0.1%	0.0%	0.1%	99.7%	100.3%
Undo_Dancer	0.0%	-0.1%	-0.1%	0.0%	0.0%	-0.5%	99.6%	99.6%
1024x768	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	99.6%	100.2%
1920x1088	0.0%	0.1%	0.0%	0.0%	0.0%	-0.2%	99.6%	100.2%
average	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	99.6%	100.2%

4 Conclusion

This document reported results of disabling of DMM 4. In the evaluation of DMM 4 disabling in HTM-6.0 under CTC, 0.2% bitrate was achieved for synthesis results.

5 Reference

- [1] G. Tech, K. Wegner, Y. Chen, and S. Yea, “3D-HEVC test model 3,” JCT3V-C1005, Geneva, CH, Jan. 2013.
- [2] D. Rusanovskyy, K. Muller, and A. Vetro, “Common test conditions of 3DV core experiments,” JCT3V-C1100, Geneva, CH, Jan. 2013.

6 Acknowledgment

This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MEST) (No. 2012-0009228).

7 Patent rights declaration(s)

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