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Title: **AHG8: A study on Equi-Angular Cubemap projection (EAC)**

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Abstract

This contribution studied the compression efficiency of the Equi-Angular Cubemap (EAC) projection, a modified cube map projection format similar to the ACP (Adjusted Cube Map Projection) being studied in the JVET. Experimental results HM16.15 + JVET 360Lib-3.0 library per the 360 video common test conditions revealed that the EAC outperforms the ERP on average by 11.1%, 6.0% and 6.1% (E2E SPSNR-NN, RA-configuration) in Y, U, V, respectively. For E2E WSPSNR measure, the conversion only quality of EAC is about 0.6 dB higher than that of ACP (i.e. 49.12 dB vs. 48.55 dB).

Introduction

Like ACP (Adjusted Cube Map Projection) [5], the Equi-Angular Cubemap (EAC) projection is aimed for having a uniform sampling rate regardless of sampling location on a cube face [1]. This contribution reports the performance of the EAC by integrating it into the HM16.15 + JVET 360Lib-3.0 library [2].

Figure 1. Comparison between CMP and EAC

Equi-Angular Cubemap (EAC) Projection

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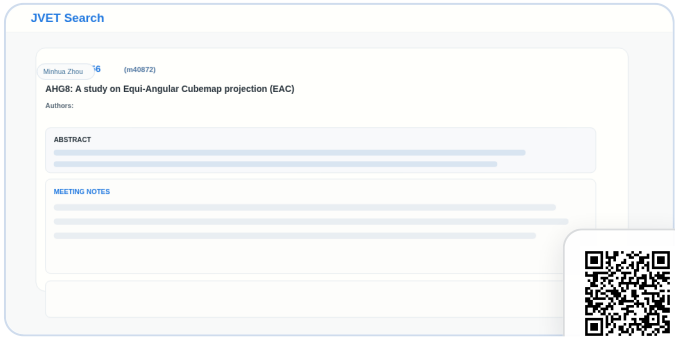

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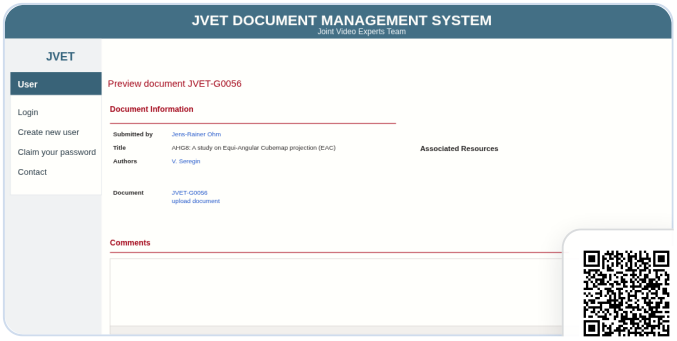

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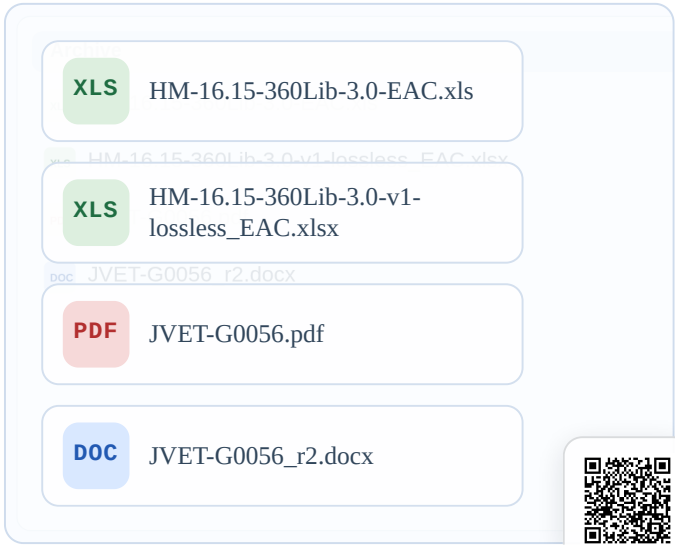

MEETING NOTES

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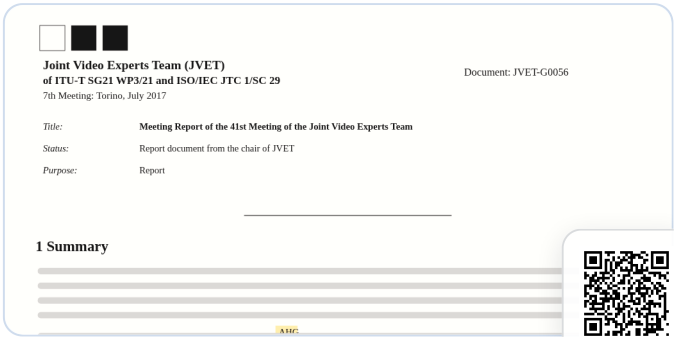

MEETING NOTES

JVET-G0056 AHG8: A study on Equi-Angular Cubemap projection (EAC) [M. Zhou (Broadcom)]

CITATION

M. Zhou, "AHG8: A study on Equi-Angular Cubemap projection (EAC)", JVET-G0056, 7th Meeting: Torino, July 2017.

REFERENCES

1. M. Coban, G. Van der Auwera, M. Karczewicz, "AHG8: Adjusted cubemap projection for 360-degree video", JVET-F0025, 6th Meeting: Hobart, March 2017.
2. Y. Ye, E. Alshina, J. Boyce, "Algorithm descriptions of projection format conversion and video quality metrics in 360Lib", JVET-F1003, 6th Meeting: Hobart, March 2017.
3. E. Alshina, J. Boyce, A. Abbas, Y. Ye, "JVET common test conditions and evaluation procedures for 360° video", JVET-F1030, 6th Meeting: Hobart, March 2017.