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| *Title:* | **Description of Core Experiment 7 (CE7.a) on skip mode coding in 3D-AVC** | |
| *Status:* | Output Document | |
| *Purpose:* | Core Experiment Description | |
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| *Source:* | CE Coordinators | |

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# Abstract

This document describes Core Experiment CE 7 which goal is to further evaluate methods for improved skip mode coding in 3D-AVC. Proposals will be evaluated according to their impact on compression efficiency and implementation complexity. In addition, CE will conduct verification of visual quality for proposed techniques.

Participants

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(P = proponent, C = cross checker)

# Tools under Investigation

The tools to be investigated in this Core Experiment are intended for improving efficiency of mb\_skip\_flag coding of dependent views of texture streams and depth views in the scope of 3D-ATM. Different schemes for signaling of chains of skipped macroblocks to be tested in terms of compression efficiency, complexity and influence on subjective visual quality.

### JCT3V-C0035: MB skip flag coding in 3D-ATM optimized for 3D video compression

This contribution proposes 3D-based coding tool for improving coding efficiency of skip flags in dependent views of texture and all views of depth that are encoded by 3D-ATM. In order to improve coding efficiency without any modifications of the CABAC engine, it is proposed to use run-length coding approach for compact representation of mb\_skip\_flag series in dependent views and all depths of a 3D video sequence. The following results are reported: total compression gain (coded PSNR): -1.21% BD-Rate; total compression gain (Synthetic PSNR): -1.23% BD-Rate. Decoder Complexity is estimated as low as 99.6% and encoder complexity is 100% compared with reference.

# Core Experiment Conditions

## Software

The proposed methods will be implemented into subsequent version of 3D-ATM. Proponents are requested to provide software that can be compiled under Windows and Linux platforms.

## Test Sequences

Test sequences will be used according to common test conditions [1].

## Coding Conditions

The experiments are conducted under the common test conditions [1].

## Timeline

**2013/01/31:** Final description of CE

**2013/04/06:** Make source codes and simulation results available for CE participants

**2013/04/13**: Register documents for the JCT-3V meeting

**2013/04/13:** Upload simulation results and cross-check results to the JCT-3V document system

**2013/04/20-26**: The 4th JCT-3V meeting

# Reference

1. D. Rusanovksyy, A. Vetro, and K. Müller, "Common Test Conditions for 3D Video Extensions Development," Joint Collaborative Team on 3D Video Coding Extension Development (JCT-3V) of ITU-T VCEG and ISO/IEC MPEG JCT3V-B1100, Shanghai, China, 2012.