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**INTERNATIONAL ORGANISATION FOR STANDARDISATION**

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**ISO/IEC JTC 1/SC 29/WG 11**

**CODING OF MOVING PICTURES AND AUDIO**

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**Alpbach, AT – April 2020**

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**Description of Core Experiment 13.41 for G-PCC on dyadic RAHT**

# Abstract

This document provides a description of G-PCC Core Experiment (CE) 13.41 on dyadic RAHT.

# Introduction

The goal of CE 13.41 is to study the advantages of the dyadic RAHT decomposition approach proposed in m53557 [1], and also to check the performances impact on RAHT inter-depth prediction.

# Information about proposed tools

## m53557: On dyadic RAHT [1]

Current RAHT decomposition is not dyadic: High frequency sub-bands obtained after each one-dimensional RAHT transform are not further transformed/decorrelated. Dyadic RAHT decomposition may be obtained with a few changes to the current design. It provides coding gains for a slight complexity increase.

# Experimental description

In this CE, the proposed dyadic modification for RAHT transform will be evaluated in terms of its coding efficiency, its impact on inter-depth prediction coding efficiency, and its implementation aspects.

## Mandates

1. Study and evaluate the compression performance of the proposed method [1].

2. Study and evaluate the compression performance impact of the proposed method [1] on inter-depth prediction.

## Participants

| **Name** | **Company** | **E-mail address** | **Type** |
| --- | --- | --- | --- |
| Jonathan Taquet | BlackBerry | [jtaquet@blackberry.com](mailto:jtaquet@blackberry.com) | Proponent |
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| Alexandre Zaguetto | Sony | [Alexandre.Zaghetto@sony.com](mailto:Alexandre.Zaghetto@sony.com) | Crosscheck |

### Software

TMC13v10 [2] shall be used for these experiments. The proposed tools shall be implemented on top of TMC13v10.

### Test configurations

Parameters and configurations for TMC13v10 software will be provided by the proponent.

### Evaluation Method

The point cloud test material will be tested under the following conditions of the CTC [3]:

RAHT + Octree

* C1 Lossless Geometry - Lossy Attributes
* C2 Lossy Geometry - Lossy Attributes

(Optional Tests) RAHT + Trisoup

* C2 Lossy Geometry - Lossy Attributes

## CE.13.33 Coordinators

Jonathan Taquet (<mailto:>[jtaquet@blackberry.com](mailto:jtaquet@blackberry.com))

# Timeline:

* ***2020-05-15****: Cross-checked G-PCCv10 software (TMC13v10) and anchors*
* **2020-05-29**: Source code and results are released to cross-checkers;
* **2020-06-06**: Preliminary feedback from cross-checkers to proponent;
* **2020-07-01**: MPEG document upload deadline.

# References

1. m53557, *[GPCC][New Proposal] On dyadic RAHT*, Alpbach, AT, April 2020
2. *G-PCC Test Model v10*, ISO/IEC JTC1/SC29/WG11 w19323, Alpbach, AT, April 2020.
3. *Common Test Conditions for PCC*, ISO/IEC JTC1/SC29 WG11 w19324, Alpbach, AT, April 2020.