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Title **Results of subjective evaluation in 3DV-CE2.**

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1 Introduction

The evaluation was performed as a part of 3DV-CE2 described in [1].

The subjects has been presented a couple of tests in DSIS method.
Firsts went reference (stereo pair synthesized from uncompressed original).
Then went a test for subjective evaluation - this may randomly be either one of:

- 3D-ATM anchor, or
- 3D-ATM with Nonlinear Depth Representation,

both at constant bit-rate, R4 (the highest) to R1 (the lowest), reflecting CTC [2].

The presented stereo pair was composed from two synthetic views, around the base view.

After each test, subjects gave their scores reflecting quality.

The sessions were performed on:

- Tuesday, 19:00,
- Wednesday, continuously from about 9:00 to 11:15,
- Wednesday, 14:00.

There was a total number of 32 subjects, from which 2 were discarded due to “everywhere 5” scores.
Scores of typical subject ranged from 2 to 10.
The subjects were encouraged to sign their sheets, so that they could verify their scores after the subjective displaying order is revealed public.

2 Display order

The display order was selected randomly as follows:

00001 ndr\balloons_R4.avi
00002 ndr\GT_Fly_R4.avi
00003 ndr\balloons_R2.avi
00004 anchor\kendo_R4.avi
00005 ndr\balloons_R3.avi
00006 anchor\kendo_R1.avi
00007 ndr\kendo_R3.avi
00008 anchor\GT_Fly_R4.avi
00009 ndr\balloons_R1.avi
00010 anchor - balloons_R4.avi
00011 anchor -kendo_R2.avi
00012 ndr - kendo_R2.avi
00013 anchor - GT_Fly_R3.avi
00014 ndr - kendo_R4.avi
00015 ndr - kendo_R1.avi
00016 anchor - GT_Fly_R1.avi
00017 ndr - GT_Fly_R3.avi
00018 anchor - balloons_R2.avi
00019 anchor - balloons_R1.avi
00020 anchor - kendo_R3.avi
00021 anchor - GT_Fly_R2.avi
00022 ndr - GT_Fly_R2.avi
00023 ndr - GT_Fly_R1.avi
00024 anchor - balloons_R3.avi

Please note, that only 3 sequences were presented, due to the fact, that Nonlinear Depth Representation is automatically tuned on/off/

3 Results

Basing on the subjective evaluation results, average scores and 95% confidence intervals were calculated.

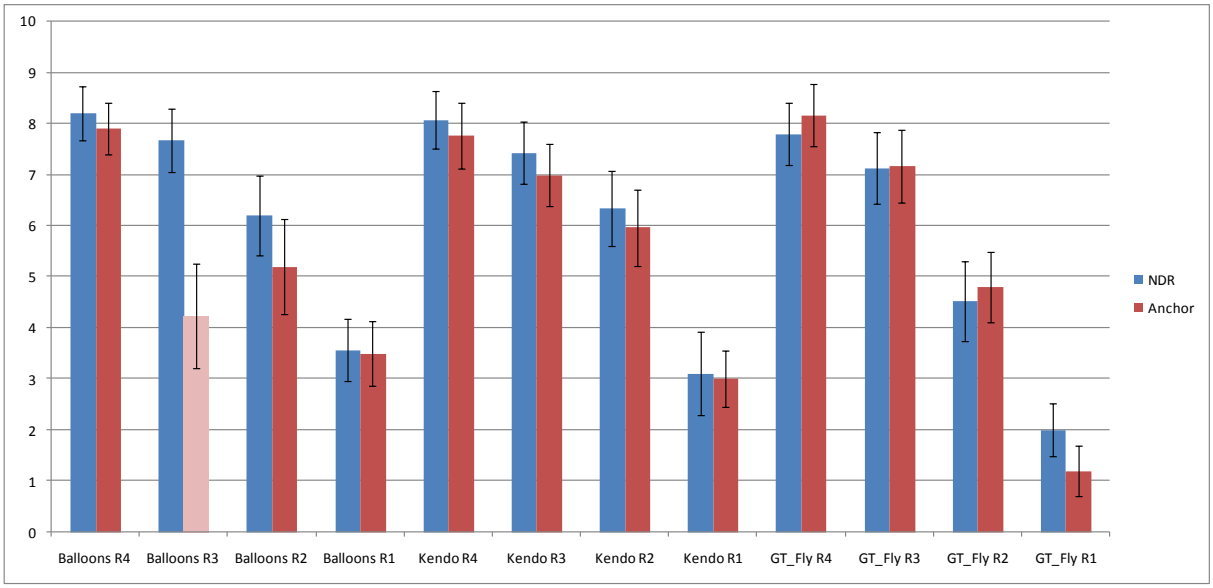

Fig 1. Results of subjective evaluation

Although in most cases, the confidence intervals overlap, there can be noticed the following tendencies:

- In case of GT_Fly sequence, the subjective quality of NDR is slightly worse but very comparable,
- A special case is GT_Fly R1 point, where subjects noticed some improvement, probably on the edges of objects, because QP values were not changed in that case,
- In case of Kendo sequence, there is an improvement of about ¼ MOS point, except for R1, where there is no improvement,
- In case of Balloons sequence, there is improvement of ¼ to 1 MOS point.
- Data point Balloons R3 is not reliable, due to errors in synthesis of the anchor (Sequence 0024)

4 References

[1] “Description of Core Experiments in 3DVideo Coding", ISO/IEC JTC1/SC29/WG11 N12561, February 2012, San Jose, USA.

[2] “Common Test Conditions for AVC and HEVC-based 3DV” ISO/IEC JTC1/SC29/WG11 MPEG2011/N12560, February 2012, San Jose, USA.