

# Paper

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## Abstract—Abstract

**Index Terms**—4k, videoquality, VMAF, bitrate ladder

## I. INTRODUCTION

Cool Introduction here

## II. TEST PREPARATION

### A. Video Selection

- 1) *Criteria:* (Resolution, Bitrate, ...)
- 2) *Datasets:* (Harmonic, Big Buck Bunny, Cablelabs)

### B. Encoding Parameters

1) *Selection of Bitrates:* Video Multi-Method Assessment Fusion (VMAF) is a full reference metric for estimating human perception of video quality [1].

To estimate relevant HEVC bitrates for our source content we sample the VMAF scores for different resolutions. The reference sequences are resampled to a fixed 50 frames per seconds to avoid frame rate differences, while the distorted sequences are downsampled, encoded with CBR rate control and upsampled to 4k again using lanczos resampling. The resulting VMAF scores show an overlap between different resolutions as seen in Fig. 1 and the final encoding bitrates are chosen near those intersections.

2) *Encoding Presets:* Two different presets are used for the sequence encodings. The first is a simple CBR-encoding and the second a 2-pass encoding with a Q-CTRL pass followed by a B-CTRL pass. Every sequence is encoded with both presets at the 3 resolutions and 3 bitrates. The resulting VMAF-scores for the encoded sequences can be seen in figure ??.

### C. Test Setup

(What we are looking for)

- 1) *Requirements:*
- 2) *Testing Framework:*

## III. TEST RESULTS

### A. Ratings

(MOS Results, Plots and stuff)

### B. Features

(Mouse tracking, Additional Questions)

## IV. CONCLUSION

## REFERENCES

- [1] J. Y. Lin, T. J. Liu, E. C. H. Wu, and C. C. J. Kuo, "A fusion-based video quality assessment (fvqa) index," in *Signal and Information Processing Association Annual Summit and Conference (APSIPA), 2014 Asia-Pacific*, Dec 2014, pp. 1–5.

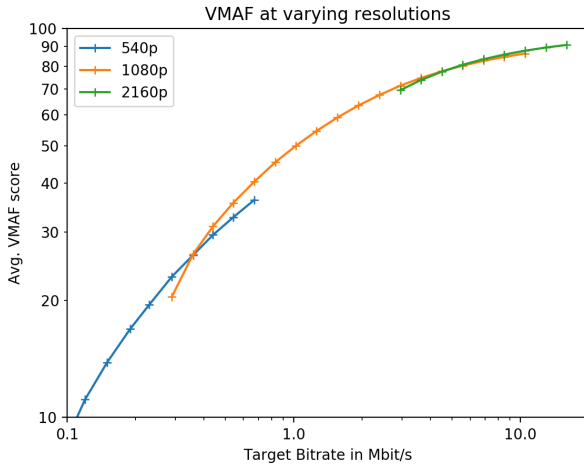


Fig. 1. VMAF scores for 25 different bitrates at 3 resolutions