

Master VICO – Lab on Video Coding

H.264/AVC

Goal: This session aims at studying and assessing the performances of different configurations for H.264 video coding standard.

1 Encoding

With *VCDemo*, compress (do not forget to save each generated stream) the *Vectra* sequence and the interlaced sequence (*Mobile*) by varying the parameters related to:

- The “I” frames (period, quantization parameter QP);
- The “P” frames (number of reference frames, “skip”, number of MB to encode in intra mode, motion estimation, inter prediction mode);
- The “B” frames (number, quantization, ...);
- The Entropy coding (UVLC/CABAC)

What do these parameters refer to?

What are the differences compared to MPEG-2?

Analyze the displayed data during the encoding process (determine the selected set of parameters and its effects in terms of prediction mode and in terms of rate/distortion).

2 Decoding

We are going to decompress the previously generated streams.

Select a “frame by frame” decoding in order to analyze more easily the results.

Observe the different available parameters (stream, motion vector field, inter prediction, intra prediction, block division, bit allocation), you can display them separately in order to understand more clearly. Explain also the decoding order and the selected encoding strategy.