Perceived Quality of the Variation of the Video Temporal Resolution for Low Bit rate Encoding

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Abstract : We conducted a subjective quality assessment experiment to measure the impact of video frame rate decimation and variation in relation with impairment duration but also with content motion and texture. We found that for intermediate and high frame rate values, quality was similar independently from the duration of the frame rate decimation. On the other hand, for very low frame rates, quality decreased as the duration of the frame rate decimation increased. Our results also do not confirm the traditional thinking of higher motion content requiring a higher frame rate to produce a given level of quality. Our observations indicate that for a given frame rate, perceived quality does not necessarily increase with decreasing motion speed and that a reduction of the temporal resolution over the entire video does not lead necessarily to a significant loss of quality.