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Proposal of an objective video quality model

Name of the proposed parameter/model:

>Statistical Blocking Indicator (SBI)

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Description: The Statistical Blocking Indicator is a parameter which describes the quality-degradation that is introduced by a block-based lossy coding algorithm such as MPEG or JPEG. The parameter facilitates a prediction of the subjective video quality.

The Statistical Blocking Indicator is based on an analysis of degraded pictures. This is done by calculating a figure that indicates the amount of „blockiness" of the picture content. This figure is weighed by using parameters which describe the masking through spatial and/or temporal activity of the picture content.

When calculating the Statistical Blocking Indicator the original picture is not needed.

Test results: Subjective tests have been conducted at the Institute for Comunications Technology, Braunschweig Technical University, Germany (Institut für Nachrichtentechnik, Technische Universität Braunschweig) according to the ITU-R BT. 500 Single Stimulus Continuous Quality Scale-method. 11 test sequences have been MPEG-2 coded at datarates ranging from 1 Mbit/s to 9 Mbit/s. The test sequence had a duration of about 8 minutes altogether. The following figure shows a comparison of the subjective (MOS) and objective (MOSp) test results.
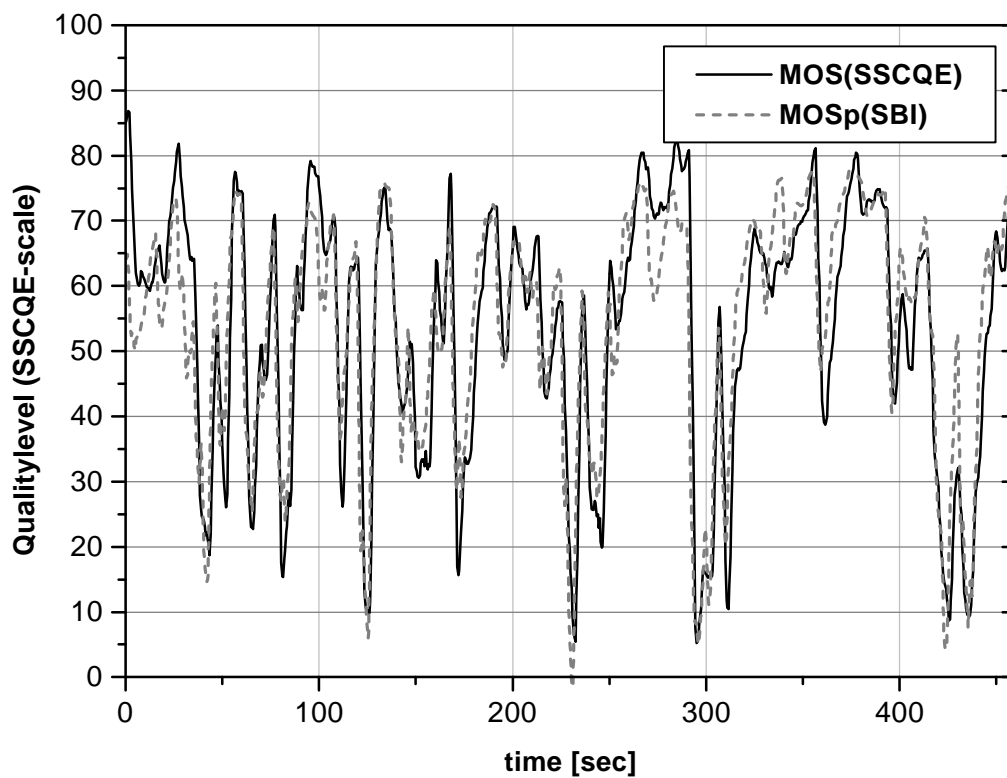
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