Influence of viewing device and soundtrack in HDTV on subjective video quality

Abstract:
Today in many homes big TV screens and hi-fi systems are common. But is the perception of subjective video quality under professional test conditions the same as at home? Therefore we examined two things: How large is the influence of the presentation device but also the influence of the soundtrack, both in HDTV (1080p50). Previous work has shown that a difference is noticeable, but there have not been studies with consumer devices, yet. It was also shown that there is an influence of the soundtrack, but only in SDTV or lower resolutions. Therefore we conducted subjective video tests: One test with different devices, a 23-inch-reference monitor, a high quality 56-inch-LCD-TV and an HD-projector, and one test in which we presented a soundtrack on a 7.1-channel hi-fi system in addition to the HD-projector. The results show two things: First the test subjects had a higher quality of experience with the consumer devices than with the reference monitor, although the video quality of the reference monitor itself was rated better in an additional questionnaire and the mean opinion score (MOS). The second result is that there is no
significant difference in the MOS between showing the videos on the projector with or without sound.