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Do We Need Psychoacoustics within Soundscape?

For the evaluation of soundscape the perception by the human being with respect to the auditory sensation is very important, which is also influenced by expectation, experiences and context. The well-known A-weighted sound pressure level is a suitable predictor at higher levels to estimate a possible damage of the human hearing by sound. But at lower sound pressure levels annoyance cannot be sufficiently predicted by the A-weighted sound pressure level. Especially in complex sound situations with different spatially distributed sound sources the human hearing is able to focus on single sound sources and to judge the sound quality depending on loudness, sharpness, roughness, fluctuation strength separately. This means that for the acoustical investigation of soundscape the use of binaural recording and psychoacoustic analysis is strongly recommended, which is currently described as informative in the new working item proposal for ISO 12913-2.

This presentation will explain the different psychoacoustic parameters with respect to their application and to the status of standardization.

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