

AAAA 2025

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Place:

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Title:

Psychoacoustics – The Future is Now!

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Abstract:

In today's market, sound quality is becoming increasingly important in the face of growing competition and new acoustic standards. This requires accurate quality predictions that can be made easily and quickly. Psychoacoustic parameters are usually the first choice for these sound quality metrics. However, these parameters are often misused or misunderstood and their use in legislation has been slow to catch on. Legislative directives often contain only guidelines for maximum A-weighted sound pressure levels or, at best, level penalties for very tonal noises, for example.

To promote the meaningful use of psychoacoustic parameters, their application must be made more understandable. To this end, the "psychoacoustic thermometer" was introduced to clearly illustrate the meaning of standardized psychoacoustic parameters based on the Sottek Hearing Model. In addition, the detailed description in the international standard ECMA-418-2 enables precise implementation.

Current developments in the calculation and scaling of these psychoacoustic quantities based on the Sottek Hearing Model are described, and the need to determine systematically their just-noticeable differences. This leads to a more accurate assessment of differences in sound perception, which is an important indicator for acoustic quality control.

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