

**188th Meeting of the Acoustical Society of America joint with
25th International Congress on Acoustics**

18-23 May 2025

Place:

New Orleans, Louisiana

Title:

The importance and better understanding of psychoacoustic parameters for measuring sound quality

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Abstract:

In today's market, the influence of sound quality is becoming more and more important in the face of increasing competition and new acoustic standards. This leads to the need for accurate quality predictions that can be made as easily and quickly as possible. In most cases, the use of psychoacoustic parameters is the first choice for these sound quality metrics.

However, the use of psychoacoustic parameters in legislation has been slow to spread. They often contain only guidelines for maximum levels or, at best, level penalties for very tonal noises, for example. To promote the meaningful use of psychoacoustic parameters, their application needs to be more accessible through free tools and easier to understand. For this purpose, the 'psychoacoustic thermometer' was introduced, which vividly illustrates the meaning of the standardized psychoacoustic parameters based on the Sottek Hearing Model.

This paper describes the current developments in the calculation and scaling of these psychoacoustic quantities based on the Sottek Hearing Model and the need to systematically determine their just-noticeable differences. This leads to a better estimation of whether sounds differ in their perception, e.g., an important indication in acoustic quality control.

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