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Title:

Modeling of Psychoacoustic Fluctuation Strength

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Abstract:

Fluctuating sounds easily attract the listener's attention and can therefore have a profound impact on sound quality. Therefore, quantifying the fluctuation of sounds according to human perception is a task of great importance. However, there is currently no standardized calculation method for the perceived fluctuation.
This paper describes an algorithm for calculating the perceived fluctuation. This method is based on a model of human hearing. This model is also used as the basis for calculating psychoacoustic tonality and roughness in the ECMA-418-2 standard, which contains psychoacoustic metrics using models based on human perception.
The method was validated using the results of jury tests with synthetic sounds under systematic modification of various sound parameters, as well as jury tests with technical sounds. The method is likely to be included in a future version of the ECMA-418-2 standard.

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