

Modelling the Perceptual Components of Loudspeaker Distortion - DTU Orbit (09/11/2017)

Modelling the Perceptual Components of Loudspeaker Distortion

While non-linear distortion in loudspeakers decreases audio quality, the perceptual consequences can vary substantially. This paper investigates the metric R_{nonlin} [1] which was developed to predict subjective measurements of sound quality in nonlinear systems. The generalisability of the metric in a practical setting was explored across a range of different loudspeakers and signals. Overall, the correlation of R_{nonlin} predictions with subjective ratings was poor. Based on further investigation, an additional normalization step is proposed, which substantially improves the ability of R_{nonlin} to predict the perceptual consequences of non-linear distortion.

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