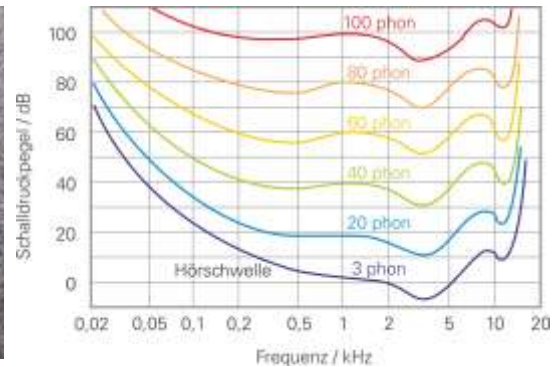


## Diplomarbeit/Studienarbeit

### Topic: Loudness Perception of Real Signals: Shaver Example



Loudness is one of the fundamental magnitudes in psychoacoustics. There are different models available in the literature of calculating loudness, and different national and international standards are established based on different loudness calculation methods. However, each method has its own advantages and shortcomings depending on the different signal types which has being investigated. More of the basic fundamental studies of loudness perception includes the hearing thresholds and correlations with the loudness calculation methods and compatibility with measured thresholds. Within this study, understanding of the term 'loudness' by using signals with 'meanings', in another words, real sounds from equipment in used is going to be investigated. "What do we understand from the term 'loudness'?" will be the main question throughout this study.

Following themes can be investigated in detail:

- Recording different electric shaver sounds, obtaining a noise database, understanding the basic signal components
- Understanding loudness models, calculation of loudness, comparison of different loudness models (comparison of DIN and ISO norm, understanding the methodological difference between Zwicker and Moore models)
- Conducting listening tests for loudness perception using real shaver recordings and synthesized shaver stimuli
- Understanding the advantages and shortcomings of using different loudness calculation models
- Discussions on using Artificial Neural Networks (ANNs) in loudness calculation algorithms

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