TECHNISCHE UNIVERSITÄT DRESDEN

Fakultät Elektrotechnik und Informationstechnik, Lehrstuhl für Akustik und Haptik

Diplomarbeit/Studienarbeit

Topic: Sound Label on Vacuum Cleaners

Sound label is a systematic categorization of a vacuum cleaner sound quality perception, considering the psychoacoustical aspects of the emitted sound.

Sound label reflects the sound quality judgment of a vacuum cleaner, considering the subjective estimations of different end users sampled to represent average consumer behavior.

Different aspects of sound label categorization /estimation methodology is going to be investigated in detail within that project proposal. Students are required to obtain a database of different vacuum cleaner sounds, perform listening tests to gather quality aspects of the estimated sounds, and finally, obtain an estimation tool to be able to forecast possible sound quality estimations by eliminating the need of listening tests.

Following themes can be investigated in detail:

- Obtaining a database of different vacuum cleaner sounds (different brands, different types and application conditions)
- Gathering 3D noise emission characteristics of a vacuum cleaner with an available measurement system, characterization of the critical points in hemi-sphere
- Performing psychoacoustical listening tests to estimate sound quality perception for different consumer groups
- Evaluating the effect of different indexing possibilities, ranging from simple regressions to Artificial Neural Networks(ANNs) to get a Sound Quality Estimation tool/index

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