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Title: Noise Quality of Traffic Noise

Abstract:

Traffic noise is considered as one major source of noise annoyance in urban context indicated by the increasing number of complaints. The neglect of quality parameters regarding pass-by noise appears as a basic cause for the unreduced annoyance. Several parameters besides the SPL have an important influence on noise evaluation, such as low frequency contributions, temporal aspects or noise patterns.

The European research project Quiet City Transport (6FP – PL516420) was motivated by the EU Noise Directive 2002/49/EC and is dealing with vehicle pass-by noise and its evaluation in order to identify promising noise mitigation measures.

In this framework a quantitative description of noise annoyance using psychoacoustic descriptors was achieved. By means of the detected metric certain perceptual-relevant aspects, such as the difference between diesel and gas, can be reconstructed. Furthermore, the development of a synthesis tool makes the simulation and binaural auralization of pass-by noise, traffic noise as well as specific vehicle noise sources possible. Based on the presented technique the detailed investigation of causes for noise annoyance is carried out. The results will be presented.