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Applicability of Advanced Measurement Techniques to Soundscape Studies

André Fiebig and Klaus Genuit
HEAD acoustics GmbH, Ebertstrasse 30a, 52134 Herzogenrath, Germany

A wide range of measurement systems and analysis techniques were applied in previous soundscape studies to document and describe the physical conditions of the scrutinized area. Monaural and binaural recording systems positioned at different measurement points are frequently used, and the collected recordings are played back with headphones or sophisticated loudspeaker arrangements in specific surroundings for further analyses. In the paper, an overview of measurement and playback technologies applied in soundscape studies will be given and the immanent problems related to certain recording and playback systems will be discussed, e.g. measurement accuracy and expense, costs, etc. Furthermore, soundscape researchers have started to establish more and more a pool of specific analyses, which allows - at least partially - the detection of relevant (acoustical) patterns and features as well as a first classification of soundscapes. This allows even the detection of positively experienced environments. However, varying measurement technologies and procedures used in different soundscape studies lead to the problem that the studies and the obtained analysis results are often difficult to compare. The present paper takes up this problem and deals with developing a common basis of measurement techniques and procedures.