Fachbereich Angewandte Naturwissenschaften
Studiengang Hörakustik

FACH
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Bachelor-Abschlussarbeit

Thema:

Acoustical Zoom With Source Blurring
Real-time implementation and perceptual evaluation

Zusammenfassung:

Digital cameras have the ability to zoom into a video or an image and narrow thereby the view to the desired part of the recorded scene. Aligning audio with video in such recordings is highly important for a natural and coherent capturing of the sound scene. To this end, creating an acoustical zoom effect, an analogon of the visual zoom, is a desirable feature that enables the user to focus more on the subject in focus. When aligning both domains, there are attributes of an optical system which should be reflected in audio, such as blurring of sources which are not in focus.

In this thesis, the basics of a Standard Acoustical Zoom based on informed filtering are explained and an Extended Acoustical Zoom is proposed with the option to blur a source acoustically which is not in focus. Methods are introduced to achieve this functionality and verified in a listening experiment. In addition, a real-time implementation of the presented acoustical zoom that was performed during this thesis is described.

Verfasser/in: Christian Dachmann
Betreuer/in: Prof. Dr. Kallinger
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