

DAGA 2024 – 50. Jahrestagung für Akustik

March 18 – 21, 2024

Place:

Hannover, Deutschland

Title:

Sound quality evaluation of coffee grinders in virtual reality

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Abstract:

Product sound can convey or complement various aspects of a household device, such as its power, price, build quality, or brand. It can also influence a product's acceptance and user experience. Perception based methods for sound quality assessment are typically performed in listening laboratories using binaural recordings, which enable a realistic sound reproduction and allow participants to experience the most relevant auditory aspects of a product's sound. However, potential audio-visual interactions and the influence of the environment on sound quality ratings cannot be fully accounted for in typical listening laboratory conditions. In this study, sound quality ratings for three different coffee grinders given in virtual reality are compared against ratings given under typical laboratory conditions and against ratings of the real coffee grinders in the corresponding environment. Furthermore, the participant's experience for each of the three assessment conditions is reported. Based on these findings, a first assessment of virtual reality as a tool for sound quality evaluation of household appliances is given and the limitations of this evaluation approach are discussed.

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