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Title:

The benefit of human structure borne sound simulation in headset testing

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Abstract:

The use of headsets in communication is increasing as well as the demand for improving communication quality in all conversational situations. Clearly, today's trend is using high quality advanced headsets. Independent of the price range, a huge problem is still their use in noisy situations. Typically, the headset microphones are moved farther away from the talker's mouth. This results in a strong decrease of signal-to-noise ratio for the talker's voice signal captured at the headset microphone. One technology intended to improve this situation is the use of bone conduction sensors, especially in combination with in-ear headsets. Testing and optimization of such devices is difficult since bone conduction simulation of the user's voice is required. This is realized by complementing a Head and Torso Simulator (HATS) HMS II.3 LN-HEC4 artificial ear acc. to ITU-T P.57 with an actuator capable of generating structure structure-borne sound in the artificial ear. The article provides background of the measurement setup used to acquire human structure borne sound and the simulation approach. Testing strategies and test results with different in-ear headsets are shown and discussed.