ABSTRACT

This bachelor thesis focuses on the exploration and analysis of principles that enable the perception and localization of sound in space, along with technologies and methods for recording, editing and reproduction of spatial sound. The aim of the thesis is to present a comprehensive overview of this topic upon which a foundation for the production of educational materials with interdisciplinary overlap shall be based. The theoretical part is devoted to physical and psychoacoustic phenomena that are crucial for understanding the principles of sound localization in space. It then describes specific technologies and methods that utilize these principles to create realistic and immersive experience. The practical part includes the design of three educational activity proposals focused on demonstrating the principles and technologies described in the theoretical part. These proposals offer a new perspective on the interdisciplinary integration of acoustics into the educational context.

KEYWORDS

spatial sound, interaural time difference, interaural level difference, binaural sound, head-related transfer function, quadrophonic sound