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MATHEMATICAL MODELLING OF SOUND PRESSURE LEVEL ATTENUATION TRANSMITTED BY AN ACOUSTIC SCREEN IN INDUSTRIAL ENVIRONMENT

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Abstract

This paper presents a three-dimensional mathematical model which characterizes the variation of sound pressure level propagation and the variation of attenuation of the sound pressure level propagated in an enclosed space. The variable taken into consideration both in the experiments and in the mathematical modeling were: the positions of the acoustic screen to noise source; the height of the microphone to record the sound pressure level for a variable number of walls. The mathematical model is based on the experimental data obtained in laboratory, using an experimental setup, which comprises a variable number of walls as acoustic screen.

Key words: industrial noise, mathematical model, sound pressure level

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