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NOISE CONTROL FOR A BETTER ENVIRONMENT

A study of the sound pressure using a boundary integral formulation: Experimental validation

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ABSTRACT

Boundary integral formulations are approaches that offer satisfactory results for problems related to environmental acoustics. Such formulations can be addressed either directly in time-domain or in Laplace or Fourier domain. In this work, a two dimensional time domain formulation is implemented to estimate the sound pressure considering point loads. Numerical solution of the boundary integral is presented: the boundary element method is used for the discretization of spatial variable, the so-called convolution quadrature method is used for the discretization of time and, in turn, validated with the formulation in the frequency domain. The numerical results are explored by examples of rigid or absorbent acoustic barriers. Finally, the numerical results of this formulation are compared with experimental measures.