# HUMAN PERCEPTION OF THE NOISE

Specifically, the mission of the Romanian Journal of Acoustics and Vibration is to promote academic publishing and to hold up the highest publishing standards that all our scholars, researchers, academic groups, and institutions, can be proud of and support.

In this context, the engineering computing, bioengineering and the machine learning are valuable tools for modeling the real-word data.

The study of the sound and vibration phenomena has a rich history dating back to the observational approach upon the noise of Leonardo da Vinci and Michel Angelo. Noise is used to describe audible sound with particular attention paid to the frequency range from 30 to 4000 Hz. Vibration is used to describe tactile vibration, with particular attention paid to the frequency range from 30 to 200 Hz.

Over the past two centuries the noise study has evolved as a legitimate field in the engineering acoustics where advanced mechanical concepts in modelling are combined with innovative solution schemes that involve both analytical and computational approaches. The subject matter is also being applied to a variety of problem in science of materials, wear, tribology, tactile sensors, biomechanics, earth sciences, geomechanics and environmental sciences, micro-mechanics, materials engineering, smart sensors and the nano-sciences.

The active and passive control of vibration and noise include the active constrained layer damping, the composites and the active acoustic metamaterials. The characterization of vibration and acoustics has applications to the wind turbines and rotating machinery, vehicles, particularly cars and trucks, fracture in composite materials and the smart sensing nodes.

Finally, we consider that the harshness is another subject of the sound and vibration field. There is a psychoacoustic phenomenon called harshness experienced by the occupants of the vehicle cabin. The exterior of the vehicle cabin is concerned to the radiated noise and includes drive-by noise. The noise generated by the fluctuation of the fluid pressure and the passage through the air represent the airborne noise. The noise radiated from surfaces of structures and buildings is the structure-borne noise.

Of course, there are many other applications of the sound and vibration field to product performance and quality in the health and the safety of workers and citizens in all fields of society.

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