

## **Abstract**

*Active noise control, made by altering parameters describing the response of physical and sensorial-perceptual structures to disturbing phenomena, does not only mean only the realization of models and mechanisms to put this into practice but creates the premise of understanding phenomena and modeling a concept exhaustively integrating the defining aspects of the dynamics of the physical domains with the perception that man has on them. In the field of continuous structures, acoustic noise and vibrational active control systems are introduced as mechanisms that use the power of external actuators to generate sounds or vibrations in order to reduce the influence of unwanted signals by altering the parameters that characterize the structure. The shift from the vibration of the continuous structural field to radiation and its coupling with an acoustic enclosure highlights the fact that the determination of modal parameters and the use of modal control in the state- space is the most efficient method of vibro-acoustic active control.*

*Introducing perceptual parameters in a study more closely related to the physical aspects of the movement is not only about achieving better results but is looking for new steps towards an approach to mathematical models describing the physical world, which man perceives a phenomenon or process. The way in which the brain approximates the outside world in general suffers from obvious limitations that are predominantly related to its ability to issue assumptions, to compare it with the data obtained and with the previously formed views about this world. To integrate man, and in particular the perceptual process of physical phenomena, involves creating a model that includes the parameters of the brain response, as factors that shape the way we perceive the real world, but also the way we represent it.*