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Critical Study of Road Traffic Noise and Land uses of Larkana City

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Abstract: Land-use activities and transportation activities play an important role in function of city. Land-use planning is a most important factor of urban environment and management of cities, which provides legal framework for future development and improvement of urban environment. In this study, Larkana city was selected as the study area where the goal and objectives were achieved. The goal is to find sustainable development approach in planning cities to reduce road traffic noise pollution at Larkana City. The objectives are the study of current road network system along with traffic characteristics, traffic flow volume and land use pattern. Second, is to monitor the traffic noise level at various points of the city.

The methodology of this study was accomplished in main following stages, which are literature review, traffic noise data was collected by using Digital Sound level Meter (AR824) and flow of traffic volume was collected by survey. These results may be useful inputs in the planning of accessible transportation and implementation sustainable land use planning in Larkana city.

Keywords: land-use, sustainable, accessible

Influence of Composite Neoprene upon the Energy Internal Dissipation in case of Harmonic Process

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Abstract: This paper presents the approach performed on viscoelastic systems with such geometrical configuration determining the behaviour as composite neoprene, tested under dynamic regime in two distinct cases, as follows:

- system having kinematical excitation and constant amplitude and
- system having dynamic excitation under inertial regime for the perturbing force generation.

Basing on both the dynamic response analysis and the dissipated energy inside the viscous element and assembly, it results in evaluation of the mechanical work in two different ways as a function of the exciting system parameters as well as the viscous force parameter.

This paper shows the different performance ways of the dissipated mechanical work depending on both the kinematical parameter changing (pulsation, amplitude) and the viscous damping factor.

Keywords: composite neoprene element, viscoelastic system, damping systems

Finite Elements Simulations of Noise Damping in a Muffler

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Abstract: - This study represents an investigation of the COMSOL Finite Elements (FE) capabilities of simulating noise reduction techniques. This general purpose FE code has an acoustics module, from which the present study investigates one type of muffler used in the automotive industry. A comparison is made between a reference design model and an improved model with a number of holes in the two ducts of the muffler. The results indicate that such a design tool can be successfully used in other applications concerning noise reduction such as exhaust nozzles.

Keywords: muffler design, noise damping

The Monitoring of the Technological Equipments by the Technological Process Specific Parameter

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Abstract: - In order to establish the existence of the nonlinear character of the viscous-elastic dynamic isolation systems, practically, it is achieved by underlining the functional parameters variation that characterizes the dynamic operation behaviour of technological equipment. Thus, the functional state of the dynamic action machines and equipments is intermittent, periodical or continuously supervised until the controlled parameters modification requires the system's repairing or stopping.

Keywords: technological process, Fourier transforms, monitoring

Acoustical Design of a Conference Hall

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Abstract: In the building of Caras Severin County Council from Municipiul Resita, capital of Caras Severin county, in Romania, was realized an extension and modernization of space located on the first floor where we arranged a conference hall with an exhibition space in the foyer.

The beneficiary, Caras Severin County Council wanted this room to have an enviable architecture and modern technological equipment for conference and teleconference purposes, with facilities for simultaneous translation in at least two languages.

The room who have to be arranged had deficiencies between the proportions of geometric dimensions, placement of large reflecting surfaces, windows on the corners room, the poor performance of sound insulation panels on the roof, all these negatively impacting the quality sound.

The present paper refers the solutions for acoustical design (sound insulation and perception acoustics) of a conference hall, adjusted to the aesthetic demands of the architecture. We will present the acoustic specifications we would like to achieve for reasonable performances regarding the use for the space.

We opted for the acoustic environment of a diffuse field. For this purpose we used moreover for acoustic treatment the sound absorption material and sound diffuser material.

Concerted efforts of the architect, acoustic specialist and other specialists involved in planning have led to a conference hall with both architectural and modern technological equipment, with good acoustic qualities, good speech intelligibility even without electronic amplifying the sound.

Keywords: acoustic design, sound difussors, architecture design

The Use of the Friction Pendulum Bearings for Isolation of the Built Environment

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Abstract: - Base isolation systems have become a significant element of a structural system to enhance reliability during an earthquake. One type of base isolation system is Friction Pendulum Bearings in which the superstructure is isolated from the foundation using specially designed concave surfaces and bearings to allow sway under its own natural period during the seismic events. This study presents the concept of Friction Pendulum, The responses of a single degree of freedom system with and without base isolation are compared for free and forced vibrations. The results showed that the maximum acceleration experienced by the structure was double without base isolation comparing to the case using this system.

Keywords: friction pendulum, seismic isolation, security

Vibration Isolation System for Machines and Equipment by Isolator Pads with Alternating Layers

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Abstract: The problems related to vibrations generated by machinery and equipment are extensive and include structural protection of equipment and the environment protection. These problems have led to the development of a vehement industry of the isolators with applications in various categories of machinery and equipment. Thus, is searching for new elastic material with high technical performance,

linear feature extended and effective damping capacity. Vibration isolators of elastomer pads are commonly used for forging, hammers, general foundry equipment, general steel mill machinery, large punch presses, and similar heavy machinery because of its high elasticity and resistance to demands for compression and shear.

Keywords: vibration isolation, isolator pads

Acoustical investigation of aquatic fittings

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Abstract: - Water is an indispensable element for the life. This contributes to the appearance and development of many phenomena, some of them accompanied by acoustical exhibitions. These ones are received by the human being through his senses. In this paper, some considerations upon the realization of ambient comfort generated by aquatic displacements are obtained by means of their acoustical investigation.

Keywords: ambient comfort, aquatic displacements, investigation

Analytical Investigation to Nonlinear Vibration of an Electrical Machine Supported by Nonlinear Bearings

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Abstract: - In this paper we analytically investigate the nonlinear behavior of an electrical machine supported by nonlinear bearings characterized by a nonlinear stiffness of Duffing type. The Optimal Homotopy Asymptotic Method is employed to obtain analytical approximate solutions. Complementary numerical solutions were obtained via a fourth-order Runge–Kutta method and an excellent agreement between the solutions obtained through OHAM and the numerical computations was observed, which demonstrate the reliability and efficiency of OHAM. The results obtained by using the proposed method can be directly employed to predict the dynamic behaviour of the rotating electric machine.

Keywords: nonlinear vibration, rotating machines, analytical approximation

The Increase of the Productivity of Work at the Milling Machines by Lifting the Stability Chart and Reducing the Noises

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Abstract: - Starting from the simplified block chart of the dynamical system engine – tool – piece – device – instrument it is drawn the stability chart if the milling machine and it is analysed the causes and the effects of the apparition of noises.

Keywords: stability, stability charts, noise

Decoupling of Bridge's Super Structure for Seismic Isolation

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Abstract: - Of the old time's the world was interested in crossing various obstacles arising in the way, course of water, valleys, such bridges have appeared, real works of art engineering. Bridges are made of wood, masonry, concrete, metal, string, etc., with the passage of time they have become increasingly large and high. Because of security needs during the seismic movements it was necessary to decoupling the superstructure (deck) from infrastructure (towers) with seismic isolation systems.

Keywords: seismic isolation, rubber, lead, bearing