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INFLUENCE OF VIBRATIONS AND DYNAMIC CHARACTERIZATION OF THE HUMAN BODY GENERATED BY CARS

Bogdan Andrei BARBU[1], Florin IORDACHE[1],
Alexandru Daniel TUFAN[1], Nicu Ciprian TANEA[1]

Rezumat. *Vibrațiile influențează corpul uman în diferite moduri. Răspunsul la o expunere a unei vibrații depinde în primul rând de frecvența, amplitudinea și durata ei. În această lucrare se studiază influența vibrațiilor generate de automobil asupra corpului uman, ținând cont atât de amplitudini cât, mai ales, de frecvențele acestor vibrații. Măsurarea acestor vibrații s-a făcut prin intermediul echipamentelor de ultima generație cu achiziția semnalelor de tip tridimensional.*

Abstract. *Vibrations influence the human body in many different ways. The response to a vibration exposure is primarily dependent on the frequency, amplitude, and duration of exposure. This paper studies the influence of vibrations generated by automobiles on the human body, taking into account both amplitude and especially the frequency of these vibrations. Measurement of these vibrations was made through the acquisition of latest equipment by acquiring tridimensional signals.*

Keywords: vibrations, triaxial accelerometer, frequency, acceleration, car

1. Introduction

The human body is both physically and biologically a "system" of an extremely complex nature. When looked upon as a mechanical system it can be considered to contain a number of linear as well as non-linear "elements", and the mechanical properties are quite different from person to person. Biologically the situation is by no means simpler, especially when psychological effects are included. In considering the response of man to vibrations and shocks it is necessary, however, to take into account both mechanical and psychological effects.

1.1 Measurement of human vibration

Techniques for measuring vibration exposure have for many years been less coordinated than desirable. The data presented sometimes lack proper description of the instrumentation used to acquire it and of the important instrumentation characteristics. The descriptors used to characterize a signal are very important.

1.2 The effects of vibration on the human body

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[1]Student, IMST Faculty, University ”Politehnica” of Bucharest, Bucharest, Romania.