

DIAGNOSE EQUIPMENT SPECIALIZED IN VIBRO-ACOUSTICS

Robin ARBONA¹, Elena Luminița OLTEANU²

Rezumat. *Această lucrare prezintă o metodă de înregistrare și prelucrare de date utile, cu un echipament de diagnoză vibro-acustică în scopul de a le folosi în cercetarea și sarcinile de consultanță prestate de laboratorul Optimum. S-a realizat înregistrarea cu echipamentul Soundbook, apoi testarea și analiza vibrațiilor în vederea comparării și validării cu modele de calcul analitic sau numeric.*

Abstract. *This paper present a method to record and process useful data with an diagnose equipment specialized vibro-acoustics, in order to use them in the research and consultancy tasks provided by the laboratory Optimum. For the recordings of vibrations, were made using the Soundbook and tested vibrations recording on simple beam in order to compare result to finite element modelling and analytical calculation, then made a calibration with calibrator device.*

Keywords: diagnosis, vibration, signal, dynamometer

1. Introduction

All installations or industrial structures are exposed to vibrations. The installation can be source of vibration or can suffer because of them.

Vibration analysis can be an interesting tool in predictive maintenance of production tools. We used vibration analysis in order to characterize the behavior of several machines in several operations. For measurement and analysis of dynamic phenomena, we use a range of equipment vibration. [2,3]

Soundbook is equipment for vibro-acoustic diagnosis, and is the equipment of laboratory CNCPST-Optimum from UPB.

2. Presentation of the equipment

The Soundbook is typically a tools adapted for industrial using. It's in fact a laptop, which integrate data acquisition card. The opposite table presents most important technical features.

¹Student, ENSAM (e-mail: robin.arbona@gmail.com).

²PhD Student, University "Politehnica" of Bucharest (e-mail: lumyole@yahoo.com).