

Improvement of Method Queues by Progress of the Piezoresistive Accelerometer Parameters

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In this paper the queues are used as a method to improve maintenance performance. The information collected by vibration analysis is used to check the system status and see whether a maintenance operation is to be organized. Thus, for a precise decision, the improvement of accelerometer parameters is required. In order to solve this issue, the piezoresistive accelerometer step and impulse responses are enhanced by using appropriate parameters (damping rate and frequency range). Computer simulation tests were conducted to confirm this approach. The obtained results have shown the difference between the accelerometer with the proposed parameters and the accelerometer used in the experiment. It can be concluded that the proposed parameters provide stable and accurate accelerometer.

Keywords: Method queues; accelerometer; damping; error; measurement.

1. Introduction

The queues application on a production system requires the use of a sensors network to collect information on their operation condition, the sensors used are: vibration sensors, temperature sensors, position sensors, etc. The improvement of vibration sensors allows advancing the queue parameters involved on dependability.

Several studies have been done on the queues designed to optimize the maintenance performance such as reliability, maintainability and availability of electromechanical systems.

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