

## **The Study of a Cost-Effective Developed System for the Comfort Testing of the Motor-Vehicle Driver and the Passengers**

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### **Abstract**

The main goal of the actual research is to develop a cost-effective Data Acquisition System. The system can be used to measure accelerations, inside the vehicles, that can affect the comfort of the passengers or the driving pleasure, known as drivability. The study of comfort, influenced by the accelerations, is currently conducted on different types of vehicles equipped with thermal, electric engines or hybrid systems. This study can have two approaches, a subjective one and an objective one. The subjective study of the drivability must be made by a specialized person, with good skill and vast experience in this domain, but the results, sometimes, can be influenced by that person preferences or its moment feelings. The objective of the study is made by analysing the recoded accelerations by a data acquisition system. The paper starts from the main tendency on every industry, represented by the indirect ratio of growing performances versus the size reduction of the measuring devices. In the beginning, this tendency can have high costs but with good optimization will have a significant cost reduction. Thus, the paper combines three main parts of engineering like electronics, automatics and not least the automotive one. The research starts from a system developed inside the automotive engineering laboratories that was used to record data in real time, on a motor-vehicle, for different running regimes, met in the real life.

*Keywords: measuring devices, data acquisition systems, running regimes, automotive engineering*

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