

International Conference and Exhibition on **Automobile Engineering**

September 01-02, 2015 Valencia, Spain

Innovation for future mobility concepts: An automatic damage identification system

Sergei Gontscharov and Karl-Ludwig Krieger
Universität Bremen, Germany

An automatic damage identification system in vehicles helps car sharing and car rental companies to monitor damage as it happens and to attribute it to a responsible person. The working group “Automotive Electronic Systems” at the Institute of Electrodynamics and Microelectronics (ITEM), Universität Bremen, initiated in early 2012 the joint project KESS – Konfigurierbares Elektronisches Schaden identifikations System, engl.: Configurable Electronic Damage Identification System – funded by the German Federal Ministry of Education and Research. The innovative damage identification system developed in this project offers transparency to car sharing/car rental businesses and their customers. KESS detects and documents in real time minor damages - such as dents and scratches - that happen during usage a car through the customer or through vandalism. First, a technical overview about the complete workflow in such a system is part of talk. Starting with the detected raw signals of structure-borne sounds (sensor data acquisition), through to signal evaluation and algorithmic assessment of the characteristic indicators for damage (signal filtering and feature extraction), to wireless data transmission of the registered damage to the damage management system of the car fleet owner (information flow and communication). This contribution focuses on two different approaches for algorithm design of the subsequent reasoning framework stage in a main electronic unit. Both ways make it easier to decide which final result of the damage assessment should be transmitted to the fleet management server.

Biography

Sergei Gontscharov received his degree at the Universität Bremen. He started his Doctoral research work in 2012. Currently, he is a Scientific Researcher in the working group “Automotive Electronic Systems” at the Institute of Electrodynamics and Microelectronics (ITEM), Universität Bremen. He has published more than 10 papers at German and international conferences and has been serving as an Editorial Board Member of repute. His dissertation deals with the algorithm design for a subsequent reasoning framework stage in an application for minor damage identification in vehicle’s electronic control unit.

sgon@uni-bremen.de,
sgon@item.uni-bremen.de

Notes: