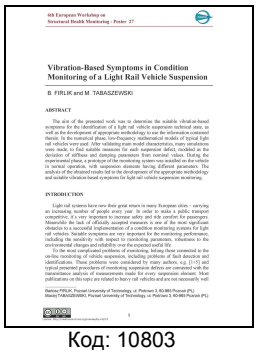

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B. Firlik, M. Tabaszewski

Vibration-Based Symptoms in Condition Monitoring of a Light Rail Vehicle Suspension

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The aim of the presented work was to determine the suitable vibration-based symptoms for the identification of a light rail vehicle suspension technical state, as well as the development of appropriate methodology to use the information contained therein. In the numerical phase, low-frequency mathematical models of typical light rail vehicles were used. After validating main model characteristics, many simulations were made, to find suitable measures for each suspension defect, modeled as the deviation of stiffness and damping parameters from nominal values. During the experimental phase, a prototype of the monitoring system was installed on the vehicle in normal operation, with suspension elements having different parameters. The analysis of the obtained results led to the development of the appropriate methodology and suitable vibration-based symptoms for light rail vehicle suspension monitoring.

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Ключевые слова:

Содержание