

## Application of resonance vibration analysis to diagnostics of a car disc brake

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*Abstract:* The article presents research in the field of disc brakes diagnostics of a motor vehicle using vibration analysis in the resonant band. In the article for the elements of the braking system an impulse test was presented to estimate the frequency of resonance vibrations of these elements. The recorded vibration acceleration signals were analyzed in the frequency domain. The authors pointed out that the elements of the braking system have a common resonance frequency, which increases the vibration of the disc brake system during braking. In the article, the authors also pointed out that during the operation of the disc braking system, the wear of friction elements influences the acceleration of vibration of the brake linings. This relationship was used to assess the wear of the brake friction components as well as the causes of noise generated by the brake.

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