

CORRELATIONS IN DIFFERENT BRAKE SYSTEM CONFIGURATIONS DURING STRAIGHT-LINE BRAKING PERFORMED BY AN ABS EQUIPED VEHICLE

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Abstract

The optimal braking force distribution to the vehicle's front and rear axle is crucial for the vehicle's stability during the straight line braking. Considering the fact that the braking torque that can be applied to the wheel depends on the applied brake actuator, it is important to examine what happens to the braking performances of the vehicle when the disk brakes are mounted on the rear axle instead of drum brakes and what happens when the vented disk brakes are mounted on the front axle instead of solid disk brakes. For comparison of the braking performances, experimentally obtained data for an ABS equipped vehicle - Zastava Florida was used. The data for the above mentioned vehicle was collected while the vehicle was performing straight line braking. In order to analyze the influence of the measured values on the speed of the vehicle, the partial coherence functions on the braking pedal force and the pressure of the front and rear lines for the output value of the vehicle's speed was used.

Keywords

brake, disk, drum, coherence