
On realization of another opportunity of improving the road holding

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The paper analyzes the loss of a vehicle stability resulting from the fluctuations of the unsprung masses. It also presents both a method of decreasing the fluctuation intensity and a mathematical model, which helps to solve the problem of unsprung mass vibration under the conditions of controlling vertical responses of a road to tires when a car follows a periodic road profile. In case the described control of the vertical responses is implemented, it will become possible to reduce the fluctuation intensity of unsprung mass vibrations. In its turn, it will reduce time of the loose tire-road interaction or completely prevent the loss of this interaction as well as wheel traction with the road, thereby improving the road holding.

Keywords: *stability, controllability, the pressure in the tires, radial distortion of tyres, suspension, automatic control suspension, hydraulic drive.*

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