

MATHEMATICAL SIMULATION OF THE STABILITY OF FOUR WHEEL DRIVE VEHICLES

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Abstract

The present work has as main purpose the study of the stability factor for a four wheel drive vehicle on a curvilinear path. The constant connection between the tire and the road will be taken into account hereinafter.

The stability study has as a goal that the vehicle should move without skidding, sliding or overturning, taking into account both, the frontal stability as well as the longitudinal one.

The research starts by analyzing the position of each wheel, taking into account the torsor of each force, by comparison with the position of the gravity centre. The simulation is done on a real vehicle.

Keywords

Stability, four wheel drive, stability, centre of gravity, coordinates, force, moment.