

The Skidding Vehicle – Observations of Behavior with Different Wheel Conditions

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(last revised 23 August 2011)

Abstract

A vehicle may skid due to reduced friction conditions or after having been struck by another vehicle. This behavior is unusual, especially if the wheels are free to roll, because the wheel behavior perpendicular to the axis of rotation (rolling forward or backward) of the wheel is completely different from the behavior in the direction of the axis of rotation (skidding sideways). This paper looks at several conditions of wheels (locked or unlocked) and develops models for the behavior of the skidding vehicle given these various states of constraint. A Simulink model of the more complicated cases is developed to show the movement of the vehicle.

Coming soon...