Controlling dynamic stabilization of a multi-wheeled vehicle with an individual propulsor drive

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Nowadays a motor vehicle is becoming a highly sophisticated technical object, which employs electronic control systems and algorithms in order to enhance different performance properties, particularly the active car safety. Applicability of the automated process control systems in wheeled vehicles is surely to be extended in case an individual propulsor drive is implemented. One of the active car safety systems is a dynamic stability system of a multi-wheeled vehicle. This paper specifies a synthesis of the system. The authors use some methods of simulation mathematical modeling, which help to prove the efficiency and effectiveness of the proposed algorithm for the dynamic stabilization system of a multi-wheeled vehicle while performing a standardized maneuver called the "movement with a specified radius" on the support base with low traction.

Keywords: wheeled vehicle, individual drive wheels, active safety, control algorithm, power, prop, angular velocity, torque, braking moment, mathematical model, simulation modeling.

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