

## Efficient Control of Some Dynamic States of Wheeled Robots

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**Abstract :** In some types of wheeled robots it is important to secure starting acceleration and deceleration maxima while at the same time maintaining transversal stability. In this paper torque distribution between the front and rear wheels as well as the timing of torque application have been calculated. Both secure an optimum traction coefficient. This paper also identifies required input signals to a control unit, which controls the torque values and timing. Using a three dimensional, two mass model of a robot developed by the author a computer simulation was performed confirming the calculations presented in this paper. These calculations were also implemented and confirmed during military robot testing.

**Keywords :** robot dynamics, torque distribution, traction coefficient, wheeled robots

**Conference Title :** ICMRV 2017 : International Conference on Mobile Robotics and Vehicles

**Conference Location :** Rome, Italy

**Conference Dates :** July 17-18, 2017