

Dynamics and Control of Autonomous Vehicles

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Abstract

Intensive research has been focused recently on intelligent and/or autonomous systems. This talk will discuss some research directions related to the development of autonomous road vehicles and some extent to aerial vehicles. Environmental sensing, vehicle modeling and model identification paradigms applied in vehicle control will be investigated. Design of special autonomous functions like lane detection and tracking, lane change and vehicle overtaking manouvers, obstacle detection and avoidance will be discussed, too. The results will be demonstrated ont the experimental vehicle platforms used by the Hungarian National Laboratory. Most elaborated methods are approved and verified in real circumstances on the Zalazone Testfield.