

Master Thesis



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Vehicle lateral velocity estimation

Vehicle lateral velocity is one of the most important vehicle dynamic variables for a wide range of automotive control systems, including lateral stability control, control allocation, path tracking etc. However, in most real applications lateral velocity can not be measured directly and has to be estimated on-line to avoid expensive sensors. The goal of this master thesis is to develop a method to estimate vehicle lateral velocity only with the sensor configuration of production cars.

Working packages:

- Literature research
- Development of a method to estimate vehicle lateral velocity considering road conditions
- Validation with Simulation
- Validation with real measurements

Requirements:

- Good knowledge in control theory
- Basic knowledge in vehicle dynamics
- Good knowledge in data processing in matlab/Simulink

Duration: 6 months

Earliest start: now

Work place: Institute of Automotive Engineering or at home

An allowance is offered after successful accomplishment of the master thesis.

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