

## **Disturbance Observer for Lateral Trajectory Tracking Control for Autonomous and Cooperative Driving**

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**Abstract :** In this contribution a structure for high level lateral vehicle tracking control based on the disturbance observer is presented. The structure is characterized by stationary compensating side forces disturbances and guaranteeing a cooperative behavior at the same time. Driver inputs are not compensated by the disturbance observer. Moreover the structure is especially useful as it robustly stabilizes the vehicle. Therefore the parameters are selected using the Parameter Space Approach. The implemented algorithms are tested in real world scenarios.

**Keywords :** disturbance observer, trajectory tracking, robust control, autonomous driving, cooperative driving

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