

Improved energy efficiency by model based predictive ACC in hybrid vehicles based on map data

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In this paper the approach of model based predictive control (MPC) in combination with digital map data for ACC is presented. New generation digital maps contain data about the surrounding environment such as lane inclination or maximum speed limitations. These information can be exploited by next generation ACC systems to control vehicle longitudinal dynamics in an energy efficient way by means of an optimized cost function of the MPC. First results of the implemented system are shown and provide a fuel saving potential of the predictive ACC in real world testing.

Topics / Driver Assistance Systems, Adaptive Cruise Control & Collision Avoidance, Energy Efficient Vehicles