Distributed Control Based on CAN Bus for a Vehicle Suspension System

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ABSTRACT

The research of this thesis, mainly lie in an adjustable shock absorber, can in good time according to the condition that the road profiles, by the measurement of sensor, and the control rule designed by this research, make use of 8051 single chips to send out a control order to the controller, change absorber the damping coefficient of the inner part hang by reaching to control the semi-active suspension system. And this institute design of control rule, is through imitate the test platform of quarter car, and CarSim the dynamic state imitate software both of imitate result do analysis and become. The calculation result used new function index among them, improved traditional function index sign to be worth, can make 8051 single chips be able to judge current road to profile a condition to reach by adjusting damping coefficient to go the car comfort and safety more quickly, end also in the car makes use of CANBUS to do to scatter the integration of the type system and the result of the control rule that test design when originally study up.

Keywords : adjustable shock absorber, semi-active suspension system, CarSim,new function index, comfort, safety

Table of Contents

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