

UML Model for Double-Loop Control Self-Adaptive Braking System

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Abstract : In this paper, we present an activity diagram model for double-loop control self-adaptive braking system. Since activity diagram helps to improve visibility of self-adaption, we can easily find where improvement is needed on double-loop control. Double-loop control is adopted since the design conditions and actual conditions can be different. The system is reconfigured in runtime by using double-loop control. We simulated to verify and validate our model by using MATLAB. We compared single-loop control model with double-loop control model. Simulation results show that double-loop control provides more consistent brake power control than single-loop control.

Keywords : activity diagram, automotive, braking system, double-loop, self-adaptive, UML, vehicle

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