PID Controller-Based Position of Active Suspension System

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Abstract:

An active suspension system is designed to minimize both of a sprung mass acceleration and suspension deflection. In this study, we develop a Proportional-Integral-Derivative "PID" controller of active suspension to evaluate its performance compared with a passive suspension. A Zeigler-Nichols rule is applied to obtain the PID tuning gains. The PID controller provides better passenger comfort and suspension deflection, compared with passive suspension. But, the controller has a long time of settling time that makes the controller a limited performance.