ACTIVE SUSPENSION USING OPTIMAL CONTROLLER

DR. HAMZAH BIN SAKIDIN

DATUK PROF. DR. MOHD RUDDIN BIN AB GHANI

SYED NAJIB BIN SYED SALIM

NORSARIZAN BT MAT YOUB

FAKULTI KEJURUTERAAN ELEKTRIK

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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The purpose of the project is to design controller for active suspension using optimal control method. In order to reach the main objective, the behavior of passive suspension is studied correspond to the different types of road surface. The controller will improve the ride quality and handling performance within a given suspension stroke limitation. The problems of passive control are excessive vertical wheel travel, non-optimum altitude of tire relative to road, also the force distribution of the suspension, resulting poor handling, body roll or body pitch when braking or accelerating and ride discomfort. This problem will be overcome by using active control suspension which the method chosen is optimal controller. The project will study the passive suspension system in quarter car model, study the active suspension system in quarter car model and do the comparison. The performance of this controller will be determined by performing computer simulations using the MATLAB and SIMULINK.

Key Researchers:

Dr. Hamzah Bin Sakidin

Datuk Prof. Dr. Mohd Ruddin Bin Ab Ghani

Syed Najib Bin Syed Salim

Norsarizan Bt Mat Youb

E-mail: hamzahsakidin@utem.edu.my
Tel. No.: 06-5552201
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