

ABSTRACT

In this time, cars usually used power steering system. However, the steering system only ease the burden of the wheel and can't turn the steering wheel based on the car speed.

In this final project will be made the design and implementation of the control system on the steering wheel that steer-by-wire system. Steer-by-wire system is an intelligent steering system which eliminates the steering column and replace it with a dc motor that function to the make the effort when turning the steering becomes lighter and the function of controller is to control the dc motor. The purpose of this final project is to make the steering wheel turning angle with input parameters such as turning steering wheel angle and speed of the car, it will make a difference turning wheel angle when the condition of the car driven at high speed or low speed and the condition of the car is stationary. In this final project the author will design a control system with Fuzzy Logic and PID Controller then the author will analyze its performance An expectation when use this method is the output of the control system can move the steering arm and make turning wheel angle approaching real-time response and stable, according to the instructions.

This system also as a basic for developing Electronic Power Steering, Self - Parking System, Automatic Driving, and others - others. This system will be implemented on the electric car.

Keywords: *Electric car, Steer By Wire, Steering, Motor DC, Fuzzy Logic – PID controller*