

ABSTRACT

The steering system is a system on a vehicle that serves to change the vehicle's direction of motion through the vehicle's front wheels. Technological developments in the steering system are increasingly varied. Currently, an autonomous car has been developed that can move on its own without having to be controlled by the driver. However, this study does not use an autonomous system because a remote control will be used for the controller to make it more flexible in its use. In accordance with the problems faced, namely the need for a prototype steering system that can be driven remotely, a steering system that can be controlled using a remote control is made..

In this study, an electric car steering system will be designed by adding a DC motor to the steering column or steering rod to move the steering wheel according to the commands given by the remote control. To be more precise in turning according to the desired angle, PID control is used. PID control functions to produce the desired system output response and speed up system response.

This study uses a P controller with a value of $K_p=20$ to get a fairly fast response of 1.6 seconds and a steady state error of 0% during testing. The percentage comparison between the angle given by the remote control and the angle read by the rotary encoder is 97.89%.

Keywords: *steering system, remote control, PID control.*