

ABSTRACT

In this final project research will be done the speed control of electric cars based on the inflection point of electric cars. By adjusting the steering angle , the user can adjust the speed of the wheel angle to fit the propotions angel right and left wheels. So that the electric car is not slippage.

In the final project, we have performed the design and implementation of software and hardware ,such as monitoring and, controlling system that display the real time parameters associated with the motion in electric car. The parameters that are monitored are speed , throttle voltage , steering or wheel angel value, which will be controlled to produce a portion of the desired speed.

In the hardware implementation, to get the steering angle or wheel angel, the system use potensio variable resistor it's the set fant of the system the value of steering angel would be readed by microcontroller. After that microcontroller will send that data (steering angel) to cpu with serial communication. The control process will be done to CPU. The result of the control process will be sent to DAC via microcontroller to synchronize the left and the right motor speed.

The obtained value will be processed and displayed on a PC .The software of the system on CPU is C++ Builder . The Test result show that the decrease and increase the speed of the wheel wich different on the right and left wheel. The results of performance measurement system based on responses from these controls, resulting settling time 10608 ms to turn left and turn right to 8736 ms, rise time to turn left and turn right 3120 ms 2496 ms and the time constant for turn left and turn right 1092ms 1716ms.

Keywords : microcontroller, monitoring, controlling , motion , steering wheel angle