

THROTTLE BY WIRE PROTOTYPE PERFORMANCE ANALYSIS ON MATIC MOTORCYCLE

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ABSTRACT

Vehicles are an important factor that supports mobilization in community activities. Motorized vehicles have many advantages and answer many of the needs of today's society, but also have a negative impact on the environment. This is caused by air pollution produced by motorized vehicles. Air pollution is the presence of one or more physical, chemical or biological substances in the atmosphere in amounts that can harm the health of living things. One of the factors that can be overcome, such as driving patterns, can be done by adding vehicle management technology. By implementing throttle by wire (TbW) it is able to reduce fuel consumption, so that exhaust gas emissions can be suppressed.

In this research, the Research Group focuses on implementing and testing the performance of the TbW prototype on automatic motorcycles. The design and simulation process was carried out in 2020, so that in 2021 the research will continue on the implementation and testing process.

The results of the study show the performance of the throttle by wire prototype which shows automatic motorcycle control with a good response. There is a delay of 500mS in the test due to the long mechanical response. Throttle by wire control is able to maintain engine speed at 2000, 3000, 4000, 5000, and 6000 rpm. The outputs of this research are paper conferences, journals, and prototype throttle by wire patents on automatic motorcycles.

Kata Kunci: *automatic motorcycle, driving pattern, throttle by wire*