Adaptive Fuzzy Logic in Intelligent Electric Drive Add-On for Diffable Wheel Chair

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ABSTRACT

This study aims to produce an algorithm used to regulate the speed of a BLDC motor that will be used in wheelchairs for people with disabilities. This study uses the Mamdani fuzzy method, while the speed response test will be generated using a simulation on MATLAB/SIMULINK. There are several results from this study, namely: 1) In tests carried out with no load (reference 25cm), it resulted in a reasonably rapid increase in time so that the overshoot was minimal and resulted in some delay time at the , , and seconds; 2) In tests carried out with a load and given a change in time on one side of the inlet, the output response is operating smoothly, only 0.2cm; 3) Fuzzy logic used in this system changed several constants, resulting in a change in the error value with a minimal delta error of 2%.

Kata Kunci: *Difabel, electric drive, BLDC*