REAL-TIME FUZZY PID-CONTROLLER FOR MOTOR SPEED REGULATION

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ABSTRACT

A supervisory control loop can assist a PID controller to better regulate the speed of a dc servo motor. The supervisory mode works on the concept of input adjustment. The adjustment mechanism is automated using fuzzy rule-base approach. Design of fuzzy rules is heuristic and rather an art than a science. The overall system can be regarded as a fuzzy augmented PID-control of a dc servo motor. This article gives details of real-time implementation of the fuzzy control using a low-cost 8-bit processor. The processor accomplishes its task every cycle within less than 1 milli-seconds. Even though lack of rigorous analysis, our work contributes to the promising future of fuzzy control.

KEY WORDS

motor control, fuzzy PID, supervisory control, microprocessor applications