

عنوان مقاله:

Controlling Electrochemical Machining By Using a Fuzzy Logic Approach

محل انتشار:

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خلاصه مقاله:

New trends and the effect of key factors influence the quality of the holes produced by ECM processes. Researchers developed a fuzzy logic controller by adding intelligence to the ECM process. Maintaining optimum ECM process conditions ensures higher machining efficiency and performance. This paper presents the development of a fuzzy logic controller to add intelligence to the ECM process. An experimental ECM drilling was improved through the integration of a fuzzy logic controller into the existing control system. Matlab (Fuzzy Logic Toolbox) was used to build a fuzzy logic controller system, which controls the feed rate of the tool and the flow rate of the electrolyte. The objective of the fuzzy logic controller was to improve machining performance and accuracy by controlling the ECM process variables. The results serve to introduce innovative possibilities and provide potential for future applications of fuzzy logic control (FLC) in ECM. Hybrid controllers that integrate fuzzy logic into the control system allow for "human like" decision-making intelligence to be incorporated into ECM controllers.

کلمات کلیدی:

(Expert System, Fuzzy logic, Electrochemical Machining (ECM

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