

عنوان مقاله:

Mathematical Modeling and Analysis of Spark Erosion Machining Parameters of Hastelloy C-276 Using Multiple Regression Analysis (RESEARCH NOTE)

محل انتشار:

ماهنامه بین المللی مهندسی، دوره 31، شماره 6 (سال: 1397)

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خلاصه مقاله:

Electrical discharge machining has the capability of machining complicated shapes in electrically conductive materials independent of hardness of the work materials. This present article details the development of multiple regression models for envisaging the material removal rate and roughness of machined surface in electrical discharge machining of Hastelloy C276. The experimental runs are devised as per Taguchi's principles and empirical relations are established using multiple regression analysis. Taguchi's methodology can be applied as a single aspects optimization technique for attaining the best set of possible process parameter for material removal rate and roughness of the machined surface. A statistical tool called analysis of variance is employed for determining the significance of input process variables that influences the desired performance measures such as material removal rate and roughness of the electrically machined surface. The developed multiple regression models are flexible, competent and precise in prediction of desired performance measures. The developed regression models were .validated and the predicted results from the evolved regression models are closer with the experimental outcomes

کلمات کلیدی:

Electrical Discharge Machining, Taguchi's Design Approach, Hastelloy, Analysis of variance, regression analysis

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