عنوان مقاله:

Prediction of tool wear by using back propagation neural network modeling when cutting C45 steel with HSS tool

محل انتشار:

نخستین همایش منطقه ای مهندسی مکانیک (سال: 1389)

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نویسندگان:

Hasan Heydari۱ - Islamic Azad University,Tabriz Branch (Azarshahr)

Ali Mohammad Jafarpour۲ - Islamic Azad University,Tabriz Branch (Azarshahr)

خلاصه مقاله:

There are various machining parameters have an effect on the tool life, but those effects have not been adequately quantified. In order for manufacturers to maximize their gains from utilizing machining, accurate predictive models for tool wear must be constructed. The aim of this work was to develop a neural network modeling of tool to predict flank wear during the turning process. Force signals are highly sensitive carriers of information about the machining process and, hence, they are the best alternatives for monitoring tool wear. The experimental force and relationship between flank wear and the ratio between the feed force and the cutting force components (Ff/Fc) were utilized to train the developed simulation environment based on back propagation neural network modeling. The developed prediction neural network was found to be capable of prediction tool wear. The developed neural network was verified by comparing the experimental values with the predicted values.

کلمات کلیدی:

Neural net, Machining, Tool Wear

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