عنوان مقاله:

Prediction of Hot Machining Force by Using Artificial Neural Network

محل انتشار:

دوازدهمین کنفرانس ملی مهندسی ساخت و تولید ایران (سال: 1390)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Hot machining is one of the most suitable methods for machining hard and super hard materials, which have high corrosive resistance and strength. Affective factors in such machining are included as initial workpiece temperature and tool feed rate. In this study, the hot machining process has been simulated. The material of the workpiece was selected as AISI 1015 and corrected Coulomb low is used to model the friction effects between tool and chips. Because determination of applied force over tool in simulation requires time and cost, artificial neural networks are used for this purpose. Two parameters of initial workpiece temperature and tool feed rate, are considered as inputs of the neural network, while applied force on tool in X and Y directions are outputs. To validate the simulation results, .experimental results were compared with simulation results and an acceptable validation was gained

کلمات کلیدی:

Hot Machining, Force, Finite Element Method, Neural Network