Article Abstract

Title:	Optimization of surface roughness in CNC end milling using response surface methodology and genetic algorithm
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Abstract:	Pre-hardened steel (P20) is a widely used material in the production of moulds/dies due to less wear resistance and used for large components. In this study, minimization of surface roughness has been investigated by integrating design of experiment method, Response surface methodology (RSM) and genetic algorithm. To achieve the minimum surface roughness optimal conditions are determined. The experiments were conducted using Taguchi's L_{50} orthogonal array in the design of experiments (DOE) by considering the machining parameters such as Nose radius (R), Cutting speed (V), feed (f), axial depth of cut (d) and radial depth of cut(rd). A predictive response surface model for surface roughness is developed using RSM. The response surface (RS) model is interfaced with the genetic algorithm (GA) to find the optimum machining parameter values.
Keywords:	