

MODELLING OF SURFACE ROUGHNESS IN END MILLING OF INCONEL-718 USING BACK PROPAGATION NEURAL NETWORK AND RADIAL BASIS FUNCTION NETWORK

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ABSTRACT

This study adopted artificial neural networks (ANN) to model and predict surface roughness in end milling of nickel-based super alloy i.e. Inconel-718 for set of given cutting parameters, namely cutting speed, feed rate, radial depth of cut, axial depth of cut. Two different types of neural network architectures namely, Feed-Forward Back Propagation Neural Network (BPNN) and Radial Basis Neural Network (RBFN), have been used in order to compare modeling accuracy and performance. The results obtained from the two different ANN models have been compared and some useful conclusions have been made.

KEYWORDS: Surface Roughness, Modeling, End Milling, Back Propagation Neural Network, Radial Basis Function Network