Quality simulation and decision-making method for complex product

integrated manufacturing system

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Abstract

The quality of simulation and decision-making method has a direct influence on the complex product integrated manufacturing system. This thesis focuses on this subject, product quality simulation and decision-making system was consummated. The rapid development of electromechanical and computer systems makes it necessary to have precise measurement during the design, simulation, fabrication, and evaluation of complex product integrated manufacturing system. In this paper we research on the software of mixed simulation system of complex product quality. Based on the analysis of manufacturing flow of traditional complex product integrated system, the product quality simulation models are founded. Firstly, the absolute correlation degree and the Simulation analysis of complex product integrated manufacturing system by using BP neural network theory. Then, the concepts and methods for the project of complex product integrated manufacturing produces based quality simulation system are introduced. And the simulation analysis is taken for guidance control system of complex product integrated manufacturing system. Furthermore, the BP neural network is used in the quality analysis and decision-making of a complex product integrated manufacturing system. The quality simulation has been gained a tremendous forward with this new method. The approved method can be also applied to physical simulation of product quality and optimization of quality parameters from machining and assembling procedures of complex product integrated manufacturing system.

Keywords: Quality Simulation; Decision-Making Method; Complex Product; Manufacturing System