Preliminary Study of Rapid Reconfigurable Surface Machining System

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ABSTRACT

In recent years, owing to the trend of using the computer aided technology in manufacturing, providing global network service has become the key factor to survive in the changing market. To enhance the advantage of the dispersed department and personnel among various enterprises, the use of network to communicate and exchange information can greatly improve the production efficiency. Moreover, manufacturing system should accommodate various kinds of demands of production condition and functional operation in the tendency of upgrading the products constantly. The above system structure must respond the changeability and reconfigurability in time to effectively use the components and equipments in the engineering activities. It can also plan the customized manufacturing engineering activities and offer the required manufacturing services for various industries so as to achieve the goal of shortening the product development and manufacturing time. Based on the CORBA technology, the objective of this thesis is to expand the multi-axis machining core technologies (including: process planning, tool path generation and postprocessing) to develop a rapid reconfigurable surface machining system. The developed system can achieve the reconfigurability in time through the network to response the demands of surface machining and operate the modules flexibly so as to rapidly meet the requirements of surface manufacturing services for different users.

Keywords : Reconfigurable System, Process Planning,Postprocessing.

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