面向并联机床的CAD/CAM集成系统

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摘要

为了解决并联机床的数控加工编程问题，实现并联机床对复杂曲面零件的数控加工，推动并联机床的产业化和实用化，开发了面向5　UPS/PRPU并联机床的CAD/CAM集成系统。提出了该集成系统的总体结构，并对系统软件进行了模块划分，阐述了各模块的功能和实现方法。该集成系统以结构化、模块化和开放式为设计思想，覆盖了并联机床数控化亟待解决的关键问题。面向5　UPS/PRPU并联机床的CAD/CAM集成系统在机床样机上的实践结果表明，采用该系统可以实现并联机床对复杂曲面的数控加工，具有很强的工程实用性。

关键词　机床；并联机床；数控加工；CAD/CAM；复杂曲面

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Parallel machine tools oriented CAD/CAM system

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Abstract

In order to solve the problem of NC machining programming for parallel machine tool (PMT), implement NC machining of parts with complicated surfaces by PMT, promote the industrialization and practicality of PMT, a 5　UPS/PRPU PMT oriented CAD/CAM integrated system is developed. The overall structure of the CAD/CAM system is put forward and the system software is modularized. The function and implementation of each module are described. In the design of the CAD/CAM system, the concepts of configuration, modularization and opening are implemented. These concepts cover the key issues of NC for PMT. The CAD/CAM system was successfully used on 5　UPS/PRPU PMT. Experiments show that the system can realize the NC machining of parts with complicated surfaces, and its engineering feasibility is good.

Key words　machine tool　parallel machine tool　NC machining　CAD/CAM　complicated surface

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