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论文

基于SolidWorks模型的虚拟装配模型转换和表达方法

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摘要：

为将SolidWorks装配模型转换为虚拟装配模型，提出把虚拟装配系统模型转换划分为零件模型转换和装配约束模型转换两部分.使用虚拟仿真标准格式OpenFlight数据库表达零件的层次化模型，采用面向对象的层次化模型表达零部件间的装配约束模型，零件模型和装配约束模型通过结点编号实现映射.在基于OpenGL Performer的虚拟装配系统中实现了装配模型的重构，实例研究表明该方法简单有效，具有可扩展性.

关键词： 虚拟装配 模型转换 装配模型表达 层次化模型

Study on an approach of transformation and representation based on the SolidWorks model to the virtual assembly model

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Abstract:

To transfer the SolidWorks assembly model to the virtual assembly model, model transformation of a virtual assembly system was divided into two processes: the part model transformation and the assembly constraint model transformation. The OpenFlight database, which is a standard format for virtual simulation, was used to represent the part's multi-level model. An assembly restriction model was expressed by the object-oriented multi   level model. These two models were associated with each other by the nodes' name. The virtual assembly model was reconstructed on the virtual assembly system based on the OpenGL Performer. The results verify that this method is simple, feasible and extendable.

Keywords: virtual assembly   model transformation   assembly model representation   multilevel model

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