

研发、设计、测试

液压集成块油路语义特征建模及有效性维护

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摘要 以液压集成块油路设计问题为对象, 采用层次化的语义特征建模方法, 建立包含工程语义层、几何层、拓扑层及参数层的液压集成块油路语义特征模型, 提出基于临时体模型和B-Rep模型混用的几何描述方法, 基于图论的实体邻接图/邻接矩阵的油路特征拓扑描述方法和特征工程语义的有效性验证和维护机制, 从而可实现与设计时序无关的液压集成块油路设计和有效性实时验证维护。

关键词 [液压集成块](#) [油路特征](#) [语义特征](#) [语义有效性](#)

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Semantics feature modeling of flow path of hydraulic manifold block and validity maintenance

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Abstract

Hierarchical semantic feature modeling method is proposed which includes engineering semantics layer, geometry layer, topology layer and parameters layer, to solve the problems of flow path design of Hydraulic Manifold Block

(HMB). In this method, geometry model is represented by mixing temporary body model and B-Rep model. Topology representation and validity maintenance of engineering semantics are realized by solid adjacent graph/adjacent matrix based on graph theory. So that flow path of HMB can be designed in the manner of history-independence, and validity of semantics feature can be checked and maintained in real-time.

Key words [Hydraulic Manifold Block \(HMB\)](#) [flow path feature](#) [semantics feature](#) [validity of semantics feature](#)

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