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无人机外形参数化建模及**CATIA**二次开发 (PDF)

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Title: Parameterization Modeling of UAV Configuration　Using API in CATIA

作者： 廖炎平; 刘莉; 王嘉博

北京理工大学宇航学院，北京100081

Author(s): LIAO Yanping; LIU Li; WANG Jiabo

School of Aerospace Engineering，Beijing Institute of Technology，Beijing 100081,China

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摘要： 文中研究了无人机外形参数化描述方法，应用VB程序进程外访问的方式对CATIA进行二次开发，将几何外形参数与无人机几何属性关联，当外形参数改变时，几何模型能自动更新，建立了无人机设计变量与几何模型的驱动关系，实现了概念设计阶段中无人机外形参数化建模，提高了建模效率。算例表明，文中建立的参数化模型能快速生成无人机几何外形。

Abstract: The geometry parameterization methods of unmanned aerial vehicle (UAV) were investigated in this paper. In conceptual design phrase, the parameterization modeling of UAV configuration was achieved by making use of the API functions of the CATIA software, which established the relationship of geometry parameters and attributes of UAV. When the geometry parameters changed, the corresponding geometry model updated automatically. The efficiency of modeling was improved by using the drive relationship of design variables and geometry model of UAV. The constructed parameterization model was validated by the UAV applications, and can generate UAV geometry configuration quickly.

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