عنوان مقاله:

Aircraft Automated Layout and Architecture Conceptual Design using Knowledge-Based Engineering

محل انتشار:

نوزدهمین کنفرانس بین المللی انجمن هوافضای ایران (سال: 1400)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Saeed Hosseini - *PhD Candidate, Aerospace Engineering, Amirkabir University of Technology*

Mohammad Ali Vaziri-Zanjani - *Associate Professor, Aerospace Engineering, Amirkabir University of Technology*

Hamid Reza Ovesy - *Professor, Aerospace Engineering, Amirkabir University of Technology*

خلاصه مقاله:

In this research, the implementation of knowledge-based engineering methods for developing a robust, updatable, and scripted CAD model for application in an integrated multi-disciplinary design, analysis, and optimization environment is investigated. To this aim, many advanced automation techniques and commands in the selected CAD engine are used to develop a complex, organized, and high-fidelity CAD model. Since the output models are used by the FEA and CFD processes, many considerations on the quality of the results and surfaces are implemented in the model. MATLAB will interact with the developed model, and the model parameters will be updated according to the design variables (which is calculated by other modules), and the updated model will be exported for CFD and FEA simulations. The process developed here will produce the model for both structure analysis (FEA) and aerodynamics .analysis (CFD) tools

کلمات کلیدی:

Aircraft – Conceptual Design – CAD – Truss-Braced Wing – CATIA