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A computational approach to handle variation and design margins aiming for a robust design

Aerospace industry is driven by the need to develop new concepts and methods to handle the constraints of weight and performance efficiency, reliability, regulatory safety compliance, and cost-effectiveness. In parallel to these demands, engineers have to manage increasing design complexity by Multi Disciplinary models and accelerate the product development cycles to be able to fulfil the market demands.

In this work it is presented how robust design computations can be performed by using analytics by probabilistic VMEA as a complement to existing algorithm in a computational workbench. When this analytics approach is used, a more efficient recording of design margins can be gained as well as time efficiency can be improved.

Special/ Invited session

Classification

Both methodology and application

Keywords

Variation, Design margin, Robust design, VMEA

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