**Design and Analysis of Wing Structure**

**ABSTRACT:**

The objective of this paper is to develop an accurate model for optimal design through design the structure of wing that combine the composite (Skins) and isotropic materials (all other structures) and compare this with the same wing made by changing the material. The optimum design for each wing with different material can be obtained by comparing stress and displacement. Structural modelling is completed with the help of CATIA V5, each components modeled separately and assembled using Assembly workbench of CATIAV5, this assembly is then converted to IGS file. Finite element modelling is completed in ANSYS WORKBENCH using the IGS file as geometry. Static analysis done using ANSYS WORKBENCH. The finite element model obtained is analyzed by applying an inertia force and then aerodynamic result (lift) is used to simulate the wing loading on the wings. Optimum material is found by tabulating stress and displacement.

Key words : wings, ansys, composite, skin, aerodynamic, structural, force

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