Aeroelastic analysis for Eagle 150b aircraft wing

ABSTRACT

The aim of this paper is to predict the flutter speed of an Eagle 150B aircraft wing by performing a thorough and comprehensive aeroelasticity analysis using computational techniques. There are two types of analysis conducted in this work, namely the actual wing analysis and the wing model analysis. The flutter analysis is performed using the PK-method option in the MSC Nastran and Patran software, where by eigenvalue and eigenvector are computed to determine the stability of the combined structural and aerodynamic system. Both modeling techniques show a good agreement with the experimental technique results. The results also show that the computational technique for actual wing analysis give a better prediction of flutter condition compared to wing model analysis.