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Title : STATIC ANALYSIS OF ROTODOMED
AIRCRAFT PART II : RESULTS

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Abstract :

Numerical results from a finite element analysis of rotodomed aircraft are presented. Automatic Multistage Substructuring Scheme (AMSS) in CSA/NASTRAN has been effectively used in the modelling of rotodomed aircraft. The results presented correspond to four critical load cases - one vertical gust load case V_g and the other three side load cases. Detailed numerical results for these loading cases are presented in the form of tables containing displacements and stresses at salient points on the structure. In addition, deformed shapes, stress contours etc. of different components are also presented. It is found that the stresses in platform, pylons and fuselage are well within the allowable limits except for a few points in the region of intersection of pylons with the fuselage. The finite element sub-structuring modelling details of the rotodomed aircraft were reported in an earlier report [1].