

عنوان مقاله:

Fatigue Damage Evolution of Notched Composite Multilayered Structures under Tensile Loads

محل انتشار:

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خلاصه مقاله:

The problems discussed in the present paper are well-known both from the theoretical (numerical) and experimental point of view. The novelty of our approach depends on the application of the hybrid experimental methods and the comparison of their effectiveness in the description of complicated fatigue problems arising in analysis of the behaviour of laminated panels with open holes and subjected to tensile loading. Three experimental methods are used herein: the infra-red thermography (passive), the structural health monitoring (active) and the digital image correlation. The experimental investigations are supplemented by the finite element description of the problem dealing mainly with the static behaviour, monitoring the development and final fracture of composites. The considerations concern the laminated panels oriented at $\pm 45^\circ$ with different types of holes, i.e. vertical elliptical, horizontal elliptical and circular.

کلمات کلیدی:

Fatigue, open holes tensile tests, infra-red thermography, structural health monitoring, digital image correlation

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