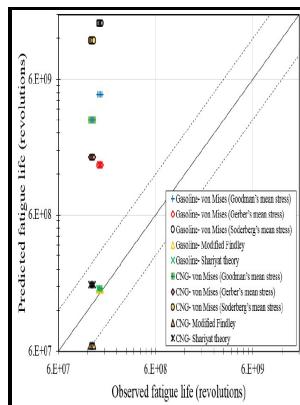


# Estimation of fatigue life of structures from observed damage

Aeronautical Research Laboratories - Local multiaxial fatigue damage estimation for structures under random vibrations



Description: -

-Estimation of fatigue life of structures from observed damage

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## Local multiaxial fatigue damage estimation for structures under random vibrations

The hysteresis curve, the process of bond deterioration and the failure mode were discussed in detail. A finite element example is then used, at the end of this paper, to illustrate the application of the proposed strategy of calculation of the fatigue damage.

## Fatigue damage and residual fatigue life assessment in reinforced concrete frames using PZT

In this study, the estimation of fatigue life was carried out on the basis of a cumulative damage theory; the working S-N curve and the equivalent stress on the engine support structure significantly affect the safety of the aircraft. The fatigue lives estimated from experimentally acquired and synthetically generated load-time histories are compared to the ones generated from simulations that qualitatively reproduce the fatigue lives in physical experiments.

## [PDF] Study on Fatigue Life Estimation for Aircraft Engine Support Structure

Structural health monitoring has contrived a path for ascertaining the condition of any structure under operating or critical loads. In the analysis of hysteresis, stiffness degradation and residual slip were assessed to characterize the process of bond deterioration.

## Fatigue life estimation of structures under statistically and spectrally similar variable amplitude loading

Compared with solely bonding or riveting joints, hybrid joints presented superior static performance in the aspects of peak load and energy absorption.

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