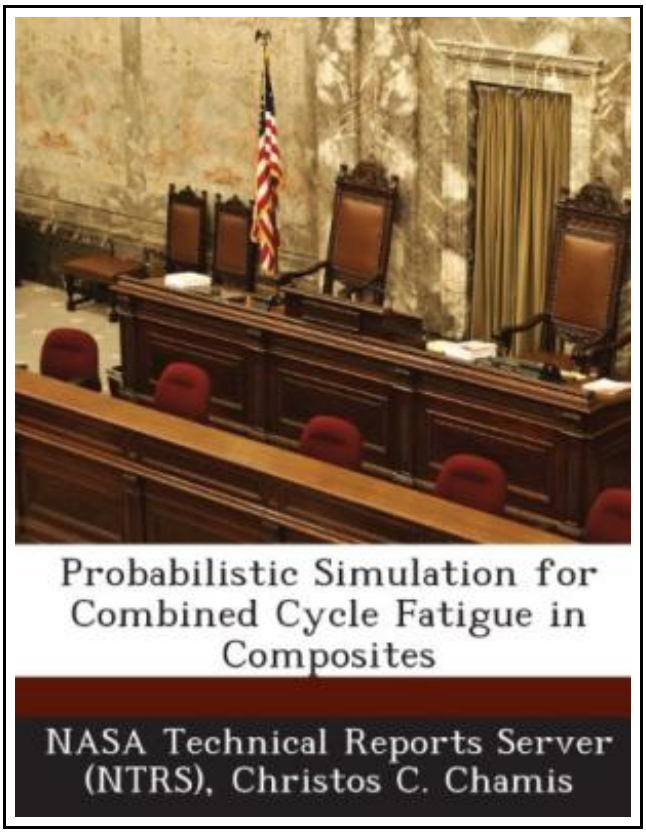
Probabilistic Simulation for Combined Cycle Fatigue in Composites



Filesize: 1.16 MB

Reviews

A high quality book as well as the font applied was fascinating to see. It generally fails to charge excessive. I am just effortlessly could possibly get a enjoyment of studying a composed book.
(Brant Dach)

PROBABILISTIC SIMULATION FOR COMBINED CYCLE FATIGUE IN COMPOSITES

To download **Probabilistic Simulation for Combined Cycle Fatigue in Composites** eBook, make sure you access the hyperlink below and save the file or get access to other information which are relevant to PROBABILISTIC SIMULATION FOR COMBINED CYCLE FATIGUE IN COMPOSITES ebook.

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 24 pages. Dimensions: 9.7in. x 7.4in. x 0.1in.A methodology to compute probabilistic fatigue life of polymer matrix laminated composites has been developed and demonstrated. Matrix degradation effects caused by long term environmental exposure and mechanicalthermal cyclic loads are accounted for in the simulation process. A unified time-temperature-stress dependent multifactor interaction relationship developed at NASA Glenn Research Center has been used to model the degradationaging of material properties due to cyclic loads. The fast probability integration method is used to compute probabilistic distribution of response. Sensitivities of fatigue life reliability to uncertainties in the primitive random variables (e. g. , constituent properties, fiber volume ratio, void volume ratio, ply thickness, etc.) computed and their significance in the reliability-based design for maximum life is discussed. The effect of variation in the thermal cyclic loads on the fatigue reliability for a (0- 4590)s graphiteepoxy laminate with a ply thickness of 0. 127 mm, with respect to impending failure modes has been studied. The results show that, at low mechanical cyclic loads and low thermal cyclic amplitudes, fatigue life for 0. 999 reliability is most sensitive to matrix compressive strength, matrix modulus, thermal expansion coefficient, and ply thickness. Whereas at high mechanical cyclic loads and high thermal cyclic amplitudes, fatigue life at 0. 999 reliability is more sensitive to the shear strength of matrix, longitudinal fiber modulus, matrix modulus, and ply thickness. This item ships from La Vergne,TN. Paperback.

You May Also Like