

# **STRUCTURAL OPTIMIZATION WITH RESPECT TO MULTI-AXIAL HIGH-CYCLE FATIGUE**

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Modern multi-axial high-cycle fatigue criteria were investigated with respect to their application in structural optimization procedures, coupled with the finite element codes. As a result of tests carried out for several fatigue criteria, the Dang Van hypothesis was used for the numerical study. A way of adapting the high-cycle load history was also suggested. The complete algorithm of the fatigue optimization was illustrated by applying the proposed procedures to vehicle parts that are subject to high-cycle loading. The finite element code ANSYS was used in the structural modeling.

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