

# PROBABILISTIC ESTIMATE OF COMPRESSOR BLADES DURABILITY TO FOREIGN OBJECT DAMAGE

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Foreign object damage is a significant cause of failure in gas turbine engines. The paper describes a methodology for probabilistic estimation of real compressor blades durability to foreign object damage. The methodology is based on numerical and experimental modeling of blade damage, experimental and computational procedure for assessment the fatigue strength loss of the damaged blades using minimum fatigue tests, failure probability calculation. The methodology may be used for evaluation the efficiency of durability rising procedures.

*Foreign object damage (FOD), gas turbine engine, compressor blade, probabilistic estimation, fatigue strength*

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