

# Enhancement of product durability and usability for resource-efficient society

Fatigue life and physical/chemical damage prediction of advanced composite materials

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## Summary :

Ceramics matrix composites, recently adapted into civil aircraft engines, needs to establish life prediction tool as component level. The goal of this study is to clarify damage accumulation mechanism of ceramic matrix composite in various conditions of aircraft engine operation. Damage accumulation mechanism of ceramics matrix composites will be elucidated by distinction between physical and chemical damages in engine operation condition. Damage parameters to characterize intrinsic and extrinsic properties of ceramic matrix composites will be defined for life prediction.

