



- 1 Composition: Smart fiber-reinforced composite
- 2 Vibration reduction of a wishbone with smart fiber-reinforced composite

SMART FIBER-REINFORCED COMPOSITE

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Motivation

Lightweight design offers significant weight reduction, but also reduces attenuation properties of the structure. Including semi-active damping elements in fiber composite structures improves these properties as well as allows condition and wear monitoring.

Composition

The layer structure of fiber composites enables the embedding of flat modules like electronic conducting paths or piezo ceramic sensors or actuators. Different Layouts for

this integration are possible that provides a fixed bond between actuator and surrounding layers. In addition to optimize shunt damping properties, the integrated sensors can be used for monitoring structural stress and wear.

Services offered

We offer Simulation and construction of Shunt-Damping circuits for vibration reduction. Additionally, integration of data ports for control functions (e.g. digital twin) is possible.

