

Seminar im Rahmen des GRK 2078

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Datum: Mi., 28.02.2018
 Uhrzeit: 16:00 Uhr

Ort: Geb. 10.23, 3. OG (R 308.1 – KM-Seminarraum)

Titel: **Recent progress in damage tolerant design of composites**

Abstract

The targeted design of lightweight composite structures for high-technology applications requires an optimal utilisation of the high specific composite properties. Numerous industrial standards have gradually been developed for that purpose in recent years. Despite such positive trends, several accidents caused by a technical system failure are consistently observed in all lightweight sectors. The responsible authorities in industry and politics usually react in a similar fashion: by intensification of safety measures or by a rapidly increasing investment in safety technologies (Fig. 1). Conservative safety concepts are the logical result of that process.

However, enormous scientific progress has been made in the fields of material development, mechanics of materials and structures, manufacturing technologies and experimental diagnostics. Within the context mentioned above, significant economic advantages are possible for the lightweight industry. The talk gives an overview about the recent progress in damage tolerant lightweight design using textile-reinforced composite materials as a selected example. New approaches to tailor material properties will be discussed as well as the higher effectiveness of novel material models, improved damage diagnostics methods and new SHM approaches.

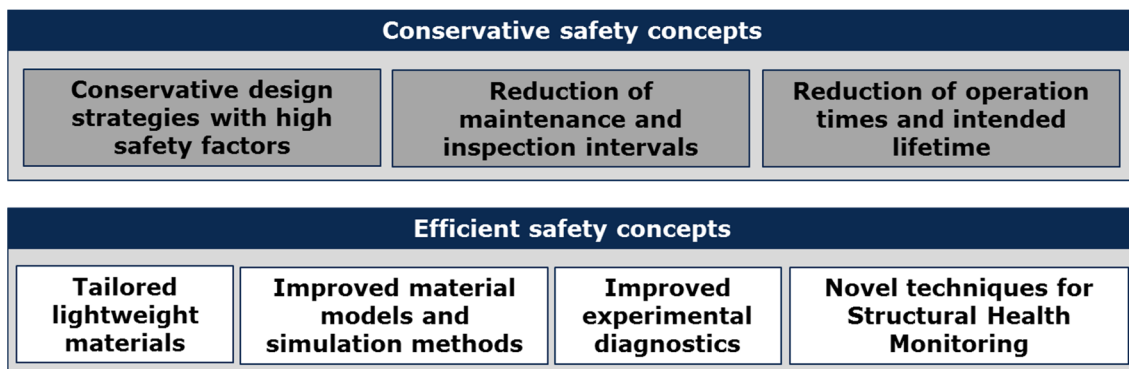


Fig. 1: Development trends for safety concepts in lightweight engineering

Alle Interessenten sind herzlich eingeladen.
 Prof. Dr.-Ing. Thomas Böhlke