

Einladung zum Gastvortrag Aachener Mechanik & Statik Kolloquium

09. Dezember 2019 | 14:00 bis 16:00 Uhr

LuF Kontinuumsmechanik | Kackertstraße 9 | 52072 Aachen
Seminarraum C 301

RWTH AACHEN
UNIVERSITY

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**„Tools and models for a predictive simulation
of composite forming processes“**



LEAP Engine Fan Blades forming simulation

The ambition to shorten the processing cycle continuous composite materials on developable geometries requires to better control the defects of the parts and to provide engineers with information about their mechanical and material properties in service. The use of the numerical tools seem to be a beneficial way to achieve these objectives, while avoiding a prohibitive cost of development by trial error approach. Most frequently encountered forming defects are wrinkling, fiber crack, fiber slippage or matrix deconsolidation. Whatever the defect evoked, its influence on the mechanical properties makes the part often unusable. The modeling of composite materials is diversified both by the nature of the matrix and its temperature dependence, and by the wide variety of types of continuous fiber reinforcements. For each of these cases, mechanical models and numerical formulations are proposed.

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