



Technische
Universität
Braunschweig



Robust design optimization using Taylor series approximations

Lecture of

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Okerhochhaus, Pockelsstraße 3,
seminar room, ground floor

Design optimization of structures tends to provide designs which are sensitive to deviations from the ideal configuration, for which they are designed. Robust design optimization approaches allow for taking into account the influences of randomly scattering material properties, geometry and loads.

The current talk provides an overview of robust and reliability-based design optimization approaches. High dimensional optimization problems such as shape and topology optimization require efficient approaches to quantify stochastic moments and their gradients. The talk will provided details on how this can be achieved with probabilistic approaches which are based on Taylor series expansions.