Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Fakultät für Mathematik, Informatik
und Naturwissenschaften
Fachbereich Mathematik

Lothar-Collatz-Kolloquium für Angewandte Mathematik

Donnerstag, den 19. Januar 2017, um 17:15 Uhr, im Hörsaal 5

Prof. Dr. Mario Ohlberger*
(Westfälische Wilhelms-Universität Münster, Fachbereich Mathematik und Informatik)

Localized Model Reduction for Parameterized Systems

Zusammenfassung/Abstract:

Model reduction approaches for parameterized problems have seen tremendous development in recent years. A particular instance of projection based model reduction is the reduced basis (RB) method, which is based on the construction of low-dimensional approximation spaces from snapshot computations, i.e. solutions of the underlying parameterized problem for suitably chosen parameter values.
In this talk we will present recent advances in localized model order reduction which are particularly well suited to treat large scale or heterogeneous multiscale scale problems. We derive suitable localized a posteriori error estimates against the underlying true solution of the parameterized problem and demonstrated how this error estimator can be used to overcome classical so called offline/online splitting though the newly developed concept of online enrichment. The resulting method only needs a very cheap preparation step and the iteratively enriches localized snapshot spaces using the localized a posteriori error information.

Kontakt:
Prof. Dr. Michael Hinze
Optimierung und Approximation
Raum 115, Tel.: 040 42838-4079
E-Mail: michael.hinze@uni-hamburg.de
Web: http://www.math.uni-hamburg.de/home/hinze/

* **Prof. Dr. Mario Ohlberger**
Westfälische Wilhelms-Universität Münster, Fachbereich Mathematik und Informatik,
Einsteinstrasse 62, 48149 Münster
E-Mail: mario.ohlberger@uni-muenster.de
Web: http://wwwmath.uni-muenster.de/persdb/show_perspage.php?id=407

Die aktuelle Version der Kolloquiumsankündigungen (inkl. Abstracts) finden Sie unter:

http://www.math.uni-hamburg.de/spag/angmath/kollog/

Stand: 05.01.2017 (Katrin Kopp)