



Technische  
Universität  
Braunschweig



GRK 2075

Vortrag im Gästeprogramm des GRK 2075

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## Stabilized Reduced Order Methods for computational fluid dynamics

Dienstag, 11.12.2018, 14.30 Uhr  
Okerhochhaus, Seminarraum EG  
Pockelsstraße 3, 38106 Braunschweig

In the field of model reduction is crucial to create reduced order models (ROMs) that preserve the stability properties of the original system. Several methods are available in literature for the stability enforcement of reduced order methods. In this talk we will analyze different strategies starting from both finite volume and finite element full order discretizations.

In the finite a volume setting we will present a pressure stabilization technique which has been inherited from the finite element ROM community. This is known as supremizer stabilization, and is based on the enrichment of the reduced basis space, with the solution of a supremizer problem, in order to fulfill the well known inf-sup condition.

On the other hand, in a finite element setting, we will present an alternative method based on a variational multiscale stabilization strategy that permits to avoid the usage of a supremizer stabilization strategy.

The efficiency of the proposed methods is verified with benchmark test cases.

### Kontakt

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