Kolloquium Angewandte Mathematik
Prof. Thomas Apel (BAU1)
Prof. Matthias Gerdts (LRT1)
Prof. Markus Klein (LRT1)

Universität der Bundeswehr München

Vortragsankündigung

Am **Montag, den 25.11.2024,** hält **um 17:00 Uhr**

Prof. Dr. Tabea Tscherpel
(Technische Universiät Darmstadt)

einen Vortrag über das Thema

Sobolev stability of the L^2 -projection

Der Vortrag findet im **Raum 0401** in **Gebäude 33** statt.

Vortragszusammenfassung

The L^2-projection mapping to Lagrange finite element spaces is an important tool in numerical analysis. Its Sobolev stability is known to be key to discrete stability and quasi-optimality estimates for parabolic problems. For adaptively generated meshes the proof of Sobolev stability is challenging and requires conditions on how strongly the mesh size varies. We present stability properties under certain conditions on the polynomial degree, on the space dimension and on the mesh grading. In particular, the L^2-projection is $W^{1,2}$-stable for any polynomial degree, for any space dimension smaller than 7 on meshes generated by the newest vertex bisection.

This is joint work with Lars Diening (Bielefeld University) and Johannes Storn (Universität Leipzig).

Alle Interessierten sind dazu herzlich eingeladen.