



Vienna School
of Mathematics

PhD Colloquium

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2Fast2Converge

Optimal convergence Rates for adaptive FEM

In this talk, we will explore the latest developments in adaptive Finite Element Method (FEM) for numerically solving second-order elliptic partial differential equations (PDEs). While most of the literature concentrates on achieving optimal convergence rates concerning the dimension of the FE space, users should shift their focus to optimal convergence rates with respect to computational cost, i.e., their lifetime. Recent own work has shown that the key to cost-optimality is full R-linear convergence of a suitable quasi-error quantity, along with the optimal convergence rates concerning the number of degrees of freedom. Therefore, we will demonstrate how you can solve elliptic PDEs accurately and, at the same time, save your valuable spare time.

15 April 15:00 – 15:45

**Seminarraum 5, 1st Floor,
Oskar-Morgenstern-Platz 1**