

Space Time Dual Weighted Residual Error Estimation

Bernhard Endtmayer¹ Ulrich Langer² Andreas Schafelner³

In this talk, we derive goal oriented error estimation based on the dual weighted residual method for Space-time problems. For this error estimator, we require either a solution in an enriched space or an interpolation of the solution. Under a saturation assumption based on the enriched space or the interpolation the resulting error estimator is efficient and reliable. Finally, we will conclude the talk with numerical results, featuring a time-dependent p-Laplace equation in 2D and 3D.

¹IfAM, AG Numerische Mathematik, Leibniz University Hannover
endtmayer@ifam.uni-hannover.de

²NUMA, Institut für Numerische Mathematik, Johannes Kepler University Linz
ulanger@numa.uni-linz.ac.at

³NUMA, Institut für Numerische Mathematik, Johannes Kepler University Linz
andreas.schafelner@jku.at