

International Conference on Boundary and Interior Layers
Zaragoza, July 5th–9th

On the SUPG method for time-dependent problems

Volker John¹

ABSTRACT

The SUPG method is still one of the most popular finite element methods for stabilizing convection-dominated equations. This talk will consider time-dependent scalar problems and implicit temporal discretizations. It addresses some issues in the numerical analysis of this method, like stability and error estimation. In particular, the choice of the stabilization parameter will be discussed. Numerical examples will illustrate the analytical results.

The presented results are obtained jointly with J. Novo (Universidad Autónoma de Madrid).

¹Weierstrass Institute for Applied Analysis and Stochastics
Mohrenstr. 39, 10117 Berlin, Germany
and Department of Mathematics and Computer Science,
Free University of Berlin,
Arnimallee 6, 14195 Berlin, Germany
john@wias-berlin.de