

Numerical results and experiences for a two-level LPS method applied to laminar flow problems

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In this talk we will give an overview over some numerical results for a two-level LPS method on quadrilateral meshes applied to laminar flows. A parameter-design derived from recent a-priori analysis in [LRL07] and [RL07] is verified by numerical tests on a problem with a given smooth solution. Then some results for the more complex stationary flow in the 2d lid driven cavity are presented. The talk will close with some remarks on experiences made throughout the experiments.

References

- [LRL07] G. Lube, G. Rapin, and J. Löwe. Local Projection Stabilization for Incompressible Flows: Equal-Order vs. Inf-Sup Stable Interpolation. *ETNA*, 2007.
- [Lö08] J. Löwe. Stabilisierung durch lokale Projektion für inkompressible Strömungsprobleme. Diplomarbeit, Georg-August-Universität Göttingen, 2008.
- [RL07] G. Rapin and J. Löwe. Local Projection Stabilization for Inf-Sup Stable Finite Elements Applied to the Oseen Problem. *submitted*, 2007.