An Anisotropic Recovery-Based A Posteriori Error Estimator

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Abstract

In this work we try to merge the advantages of an anisotropic mesh together with an a-posteriori error indicator, reasonably accurate and computationally simple based on the Zienkiewicz-Zhu gradient recovery. This gives rise to an anisotropic version of such an estimator. In particular, we show how it is possible to use it as a part of an iterative algorithm to predict the optimal mesh and we study numerically its efficiency on the Poisson problem.