

A POSTERIORI ERROR ESTIMATES AND THEIR USE FOR A LEAST-COST STRATEGY TO ACHIEVE  
TARGET ACCURACY

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Our work aims at providing an optimal cost strategy to achieve the targeted accuracy when approximating the solution of a nonlinear PDE. The numerical error comes from two sources: the number of iterations and the finite dimensional approximate space. We first apply a probabilistic method to explore an optimal path. Based on the analysis of this optimal path, we propose a near-optimal strategy to achieve a given accuracy based on a posteriori estimates.

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