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Kreuzer, Christian; Siebert, Kunibert G.

Decay rates of adaptive finite elements with Dörfler marking

Numer. Math. 117, No. 4, 679-716 (2011).

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*MSC Classification:* 65N30 65N12 65N50 65N15

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*Keywords:* Decay rates; Dörfler marking; Adaptive finite elements

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*Review text:*

The authors consider the decay rate of a finite element scheme of a second order linear, symmetric, elliptic partial differential equation. A large class of estimators is considered in which it is included hierarchical estimators, estimators based on the solution of local problems, etc. The adaptive method selects elements for refinement with Dörfler marking. Based on the local equivalence to the residual estimator, the authors prove an error reduction property. This with minimal Dörfler marking yields an optimal decay rate in terms of degrees of freedom.

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