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A posteriori error estimates in the finite element method for elliptic BVP with degeneration

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Abstract

We consider a class of elliptic boundary value problems with degenerating coefficients for which we construct FEM schemes with optimal convergence on the basis of multiplicative extraction of the singularity. For a scale of weighted Sobolev norms including the energy norm of the differential operator, we prove a posteriori estimates for the error of the discrete solutions. © 2014 Pleiades Publishing, Ltd.

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