Ladeveze, P.; **Leguillon, D.**
Error estimate procedure in the finite element method and applications. (English)
Zbl 0582.65078
SIAM J. Numer. Anal. 20, 485-509 (1983).

Statically and kinematically admissible fields are explicitly derived from the finite element solution of the primal form of linear models. The error on constitutive law for these fields yields an expression of the finite element error. Moreover, the contribution of each element to this error allows to implement an automatic mesh refinement procedure leading to a uniform distribution of a given accuracy.

MSC:

65N15	Error bounds for boundary value problems involving PDEs
65N30	Finite element, Rayleigh-Ritz and Galerkin methods for boundary value problems involving PDEs
65N50	Mesh generation, refinement, and adaptive methods for boundary value problems involving PDEs
35J25	Boundary value problems for second-order elliptic equations
74S05	Finite element methods applied to problems in solid mechanics

Keywords:

finite element; automatic mesh refinement

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